

Comment Report: All Comments

Project: **EAA STA Compartment B, STA 2 Cell 4**Review: **For the Basis of Design Report (BODR)**

(sorted by Discipline , ID)

Displaying 212 comments.

Id	Discipline	DocType	Spec	Sheet	Detail
3375	Civil - Site	Design Memorandum or Report	n/a		
TOC page 4: acronyms EFA is the Everglades Forever Act of 1994 and as amended in 2003 TOC page 5: WRAC is the Water Resources Advisory Commission					
Submitted By: Tracey Piccone (561-682-6495). Submitted On: 23-Mar-05					
1-0	Evaluation Concurred Agree. Edits to BODR will be made.				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3376	Civil - Site	Design Memorandum or Report	n/a		
Executive Summary, page 1: second sentence at top of page: The STA-2 Cell 4 Expansion project is part of the Long-Term Plan for Achieving Water Quality Goals, implementation of which is mandated under the Everglades Forever Act. The STA-2 Cell 4 Expansion project is being completed on a fast-track basis under the District's Acceler8 Program.					
Submitted By: Tracey Piccone (561-682-6495). Submitted On: 23-Mar-05					
1-0	Evaluation Concurred Agree. Edits to BODR will be made.				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3377	Civil - Site	Design Memorandum or Report	n/a		
Exec. Summary page 1, middle of page, replace last two full paragraphs as follows: The Long-Term Plan for Achieving Water Quality Goals" (October 2003) included recommendations for constructing interior dividing levees in Cells 1, 2 and 3 of STA-2, as well as conversion of the downstream portions of the newly divided cells from emergent to submerged aquatic vegetation (SAV). Soon after completion of the October 27, 2003 version of the Long-Term Plan, it was determined that Compartment B of the EAA Storage Reservoirs Project would not be needed for storage. As a result, the District submitted a revision to the Long-Term Plan to the FDEP to include an initial expansion of STA-2 with a new Cell 4 on Compartment B, as well as the postponement of the construction of the proposed interior levees in Cells 1, 2 and 3, and the associated vegetation conversion.					
Submitted By: Tracey Piccone (561-682-6495). Submitted On: 23-Mar-05					
1-0	Evaluation Concurred Agree. Edits to BODR will be made.				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
2-0	Evaluation Concurred Agree. Edits to BODR will be made.				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3378	Civil - Site	Design Memorandum	n/a		

		or Report			
Exec. summary, page 5: Regulatory Requirements, bullet #5: do we know if the District was required to obtain local environmental and building permits from PBC for the original STA-2 and associated structures? if we did not, why would we need to do so for Cell 4?					
Submitted By: Tracey Piccone (561-682-6495). Submitted On: 23-Mar-05					
1-0	Evaluation For Information Only PBC has permitting requirements that were not necessarily in effect prior to original STA 2 construction. If it is mutually agreed upon by PBC and the District that local environmental and building permits are required for Cell 4 construction, they will be applied for at the appropriate stage of design development.				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

<u>Id</u>	<u>Discipline</u>	<u>DocType</u>	<u>Spec</u>	<u>Sheet</u>	<u>Detail</u>
3379	Civil - Site	Design Memorandum or Report	n/a		
Exec. summary, page 8: middle of page: clarify if the modeling included the proposed interior levees in Cells 1, 2, and 3. It appears it did not, but should clarify here.					
Submitted By: Tracey Piccone (561-682-6495). Submitted On: 23-Mar-05					
1-0	Evaluation Concurred Agree. Edits to BODR will be made.				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

<u>Id</u>	<u>Discipline</u>	<u>DocType</u>	<u>Spec</u>	<u>Sheet</u>	<u>Detail</u>
3380	Civil - Site	Design Memorandum or Report	n/a		
Exec. summary, page 11: Opinion of Probable Cost is 30% higher than what was submitted to FDEP in Nov. 2004, in revised Part 2 of the Long-Term Plan. for reference, that cost estimate was \$12,250,895 including engineering and design costs. note that this cost estimate did not include the proposed recreational facilities, or the future proposed interior levees in cells 1, 2 and 3.					
Submitted By: Tracey Piccone (561-682-6495). Submitted On: 23-Mar-05					
1-0	Evaluation For Information Only The opinion of probable construction cost presented in the BODR was based on quantities derived from BC's conceptual design, unit prices from RS Means and the procedures outlined in the Acceler8 guidance document on cost estimating. BC did not have any involvement in the preparation of the cost estimate presented in the Long Term Plan.				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

<u>Id</u>	<u>Discipline</u>	<u>DocType</u>	<u>Spec</u>	<u>Sheet</u>	<u>Detail</u>
3381	Civil - Site	Design Memorandum or Report	n/a		
Introduction, Background, page 1-1 Need to revise text for consistency with my earlier comments on the Exec. Summary. General comment throughout the document is to delete the phrase "for EFA compliance".					
Submitted By: Tracey Piccone (561-682-6495). Submitted On: 23-Mar-05					
1-0	Evaluation Concurred Agree. Edits to BODR will be made.				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3382	Civil - Site	Design Memorandum or Report	n/a		
page 2-1, Site Conditions 2.1.2 Regional Geology: Did B&C consider the December 2003 Soils subsidence report written by George H. Snyder (IFAS), when developing this section of the report?					
Submitted By: Tracey Piccone (561-682-6495). Submitted On: 23-Mar-05					
1-0	Evaluation For Information Only No.				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3383	Civil - Site	Design Memorandum or Report	n/a		
page 3-2 3.3 Functional and Operational Requirements revise first sentence on top of page (note, this sentence appears in similar form throughout the document, so revision may be needed elsewhere also) The primary purpose of the STA-2 Cell 4 Expansion Project is to provide additional treatment capacity for the existing STAs and as a result, to improve water quality in the Everglades Protection Area.					
Submitted By: Tracey Piccone (561-682-6495). Submitted On: 23-Mar-05					
1-0	Evaluation Concurred Agree. Edits to BODR will be made.				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3384	Civil - Site	Design Memorandum or Report	n/a		
page 3-2 top of page; clarify in first first paragraph that the SAV conversion is proposed in portions of STA-2, dependent on constructiof of the proposed interior dividing levees.					
Submitted By: Tracey Piccone (561-682-6495). Submitted On: 23-Mar-05					
1-0	Evaluation Concurred Agree. Edits to BODR will be made.				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3385	Civil - Site	Design Memorandum or Report	n/a		
page 3-3 bullet #7 at top of page: clarify that farm canals in the north-south direction should be filled in to within a specified tolerance, i.e., within 6 inches of surrounding topo. (period, not to the max. extent practicable)					
Submitted By: Tracey Piccone (561-682-6495). Submitted On: 23-Mar-05					
1-0	Evaluation Concurred Agree. Edits to BODR will be made.				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3386	Civil - Site	Design Memorandum or Report	n/a		
page 4-3 Palm Beach County permits: verify whether or not District or its contractors were required to obtain these permits during construction of original STA-2. if we (they) did not, why is it now needed?					
Submitted By: Tracey Piccone (561-682-6495). Submitted On: 23-Mar-05					
1-0	Evaluation For Information Only PBC has permitting requirements that were not necessarily in effect prior to original STA 2 construction. If it is mutually agreed upon by PBC and the District that local environmental and building permits are required for Cell 4 construction, they will be applied for at the appropriate stage of design development. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3387	Civil - Site	Design Memorandum or Report	n/a		
page 5-4, Table 5-1 was a model developed of the STA with all four cells in operation? since the one cell off line scenario should be the exception, not the rule, the four-cell scenario should be included in the BODR as well.					
Submitted By: Tracey Piccone (561-682-6495). Submitted On: 23-Mar-05					
1-0	Evaluation For Information Only No. Modeling of existing STA 2, Cells 1-3 was not included in BC's scope of work for the BODR. BC will perform additional analysis of the outlet structures for Cells 2, 3 and 4 to demonstrate that they will work together hydraulically within the operating ranges established in the District's Operations Plan for STA 2. Modeling of the 4 cell system is proposed to be conducted in the design phase scope of work utilizing CHAN. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3388	Civil - Site	Design Memorandum or Report	n/a		
page 5-10, middle of page: Seepage Recycle Fraction: report should state the value that was used for BODR, not just refer to another work effort.					
Submitted By: Tracey Piccone (561-682-6495). Submitted On: 23-Mar-05					
1-0	Evaluation Concurred Agree. Edits to BODR will be made. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3389	Civil - Site	Design Memorandum or Report	n/a		
page 5-10 5.3.3 Project STA Treatment Performance: report should indicate the nature of the STA inflow data set, i.e., 31-year simulated flow and TP loads.					
Submitted By: Tracey Piccone (561-682-6495). Submitted On: 23-Mar-05					
1-0	Evaluation Concurred Agree. Edits to BODR will be made. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3390	Civil - Site	Design Memorandum or Report	n/a		
page 6-1 top of page: 6.1 Civil Design: first paragraph, indicates under normal conditions, Cell 4 will receive a portion of flows that currently go to Cells 1,2, and 3. where was this described in modeling summary of this BODR?					
Submitted By: Tracey Piccone (561-682-6495). Submitted On: 23-Mar-05					
1-0	Evaluation For Information Only The modeling section discusses the low flow scenario. This is the normal operating condition in which flows are likely to be distributed among the four cells. Edits to Section 6 will be made to clarify. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	Backcheck not conducted				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3391	Civil - Site	Design Memorandum or Report	n/a		
page 6-6, Outflow Water Control Structure do the advantages of this type structure clearly outweigh the disadvantages? what are the long-term maintenance costs and issues?					
Submitted By: Tracey Piccone (561-682-6495). Submitted On: 23-Mar-05					
1-0	Evaluation For Information Only Based on Operations' need to positively control flow from Cell 4, the fixed crest weir component of the outflow structure described in the BODR will be eliminated and gates will be installed on the culverts. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	Backcheck not conducted				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3392	Civil - Site	Design Memorandum or Report	n/a		
page 7-2 bottom of page: has the District determined it will allow private vehicles to travel along the interior STA levees?					
Submitted By: Tracey Piccone (561-682-6495). Submitted On: 23-Mar-05					
1-0	Evaluation For Information Only Recreational uses may allow limited controlled access to the interior levees by private vehicles. In particular, waterfowl hunting opportunities may be established in the recreation program in the future. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	Backcheck not conducted				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3393	Civil - Site	Design Memorandum or Report	n/a		
page 7-3 top of page. the recreational facilities are currently under design via a separate contracting vehicle, (to the best of my knowledge), Did this change? suggest someone coordinate with Jerry Krenz of District to avoid duplicative efforts.					
Submitted By: Tracey Piccone (561-682-6495). Submitted On: 23-Mar-05					
1-0	Evaluation For Information Only A meeting was held with Jerry Krenz of the District on March 10, 2005 to coordinate the recreational features to be incorporated into the design of Cell 4. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	Backcheck not conducted				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3394	Civil - Site	Design Memorandum or Report	n/a		
page 8-1 middle to bottom of page: is the recommendation to try to divide work up into \$500k increments consistent with our district's procurement policy (or at least the intent of the policy)? not according to what I've been told.					
Submitted By: Tracey Piccone (561-682-6495). Submitted On: 23-Mar-05					
1-0	Evaluation For Information Only This project has very aggressive schedule. The intent is to establish multiple construction contracts to perform some initial site preparation work ahead of the main construction project to meet the schedule needs. These proposed smaller contracts will also allow a quicker procurement process to perform some of this work. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3405	Civil - Site	Design Memorandum or Report	n/a		
[This item is flagged as a critical issue.] In reviewing the BODR the gated structure had no means to dewater. This is very important for maintenance. If the gate needs to be removed or repaired it must have the ability to be dewatered. Submitted By: Robert Baskin (561-682-6627). Submitted On: 31-Mar-05					
1-0	Evaluation Concurred Agree. Provisions for needle beam installation will be added upstream and downstream of the gated structures to allow dewatering for maintenance Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3490	Civil - Site	Other	n/a	2-3	2
[This item is flagged as a critical issue.] In App. C, (page 3) the ground elevation is described as from 7-9 ft NAVD - does this correspond to the stated ground elevation of 8 - 9.5 NGVD on page 2-3? Is the average ground elevation 8.9 ft as stated in Appendix F page 3? If so, please indicate as such in this section. With an outlet weir crest of 9.65, this yields an average static pool depth of 0.75 ft across the cell. Why wouldn't the crest be set to achieve an average static pool depth of 1.25 ft, or a crest elevation of 10.15 ft? This underscores the importance of obtaining thorough ground topography data as soon as possible. Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred Repeat comment. See response to #3480 Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3491	Civil - Site	Other	n/a	2-6	last
The PSTA field site contains four 5-acre cells, not three as indicated. Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred Noted. Edits to BODR will be made. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				

	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

<u>Id</u>	<u>Discipline</u>	<u>DocType</u>	<u>Spec</u>	<u>Sheet</u>	<u>Detail</u>
3493	Civil - Site	Other	n/a	3-1	4

When will the Corps make a determination on the use of the NNRC levee? Has the Executive Office conferred with the Corps on this issue yet to ensure it doesn't delay the project?

Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05

1-0	<p>Evaluation Concurred The District has determined that it maintains sufficient interest in the levee to allow its use for the intended purpose. In initial discussions with the USACE, they requested the District provide some additional information regarding the existing conditions of the levee, materials of construction, potential seepage issues, etc. A separate TM of these investigations is being completed and will be provided to the District in the very near future. The District will present this information to the USACE. It is not anticipated that there will be objections to the proposed project use from the USACE, the information was requested to ensure suitability of use.</p> <p>Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 28-Apr-05</p>
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

<u>Id</u>	<u>Discipline</u>	<u>DocType</u>	<u>Spec</u>	<u>Sheet</u>	<u>Detail</u>
3504	Civil - Site	Design Memorandum or Report	n/a		

pp.9-10 Need to identify the cell's inflow WQ monitoring location(s) (either at G337A or at the inflow structures to Cell 4) so that platform(s) can be designed and constructed and adequate power and telemetry facilities can be made available. Location and sampling configuration at the outflow structure also needs to be determined especially considering the unique design of the outflow structure.

Submitted By: Scott Huebner (561-682-2319). Submitted On: 01-Apr-05

Revised 01-Apr-05.

1-0	<p>Evaluation Concurred Agree. The location and design of the WQ monitoring stations will be addressed in the 30% design submittal</p> <p>Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 28-Apr-05</p>
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

<u>Id</u>	<u>Discipline</u>	<u>DocType</u>	<u>Spec</u>	<u>Sheet</u>	<u>Detail</u>
3513	Civil - Site	Design Memorandum or Report	n/a		

p. 7.2 (or other appropriate section) There is a need to provide a boat ramp for airboat access for WQ sampling in the interior of the cell.

Submitted By: Scott Huebner (561-682-2319). Submitted On: 01-Apr-05

1-0	<p>Evaluation Concurred Agree. Boat ramps with access from the levee crest will be provided at the 30% design stage submittal.</p> <p>Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 28-Apr-05</p>
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

<u>Id</u>	<u>Discipline</u>	<u>DocType</u>	<u>Spec</u>	<u>Sheet</u>	<u>Detail</u>
3514	Civil - Site	Other	n/a	5-7	

There are no quantifiable results of the wave runup and wind setup presented in the main body of the BODR. Suggest a summary of the Taylor Engineering analysis be included, say for example, Tables 6.1 and 6.2 of Appendix F.

Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05

1-0	Evaluation Concurred
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	Agree. Edits to BODR will be made.
	Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3530	Civil - Site	Other	n/a	6-3	
<p>[This item is flagged as a critical issue.] The criteria for levee heights differs for internal and external levees and the BODR should make this distinction: Profile grades for the interior levees are established for the higher of the following minimum criteria: 1.to provide 3 ft of freeboard above the maximum design stages for the full treatment area operation 2.to contain the increase above the SPS stages resulting from wave runup (computed for the significant wave) and wind setup resulting from occurrence of the Probable Maximum Hurricane wind Profile grades for the exterior (perimeter) levees are established for the higher of the following minimum criteria: 1.To provide 3 ft of freeboard above the maximum design stages for the full treatment area operation 2.To contain the increase above the SPS resulting from wave runup (computed for the average of the highest 1% of waves) and wind setup resulting from Probable Maximum Hurricane wind 3.To contain the increase above the Probable Maximum Storm stages resulting from</p> <p>Submitted By: <u>Gary Goforth</u> (772-223-8593). Submitted On: 01-Apr-05</p>					
1-0	<p>Evaluation Concurred Agree. Edits will be made to Section 5 of the BODR where the levee height criteria is discussed.</p> <p>Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 28-Apr-05</p>				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3531	Civil - Site	Other	n/a	6-3	
<p>[This item is flagged as a critical issue.] (continued from previous comment) 3. To contain the increase above the Probable Maximum Storm stages resulting from wave runup (computed for the significant wave) and wind setup resulting from occurrence of the 1 in 10-yr wind The SPS stages were not calculated; when will they be? Detail design phase? Appendix F did not calculate the height of the interior levees. Based on adjacent land use, all but the west levee of Cell 4 could be considered an interior levee. Appendix F calculated the height of the exterior levee as 18.1 ft in the south and 18.7 ft in the north. The text on page 6-3 states the levee height should be 19.0 ft - why the difference? The material quantity, excavation cost and overall construction cost will be quite higher if 19.0 is used instead of the 18.1 - 18.7.</p> <p>Submitted By: <u>Gary Goforth</u> (772-223-8593). Submitted On: 01-Apr-05</p>					
1-0	<p>Evaluation For Information Only The SPS stages will be calculated during the detailed design phase. Levee heights will be refined as needed in the detailed design phase.</p> <p>Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 28-Apr-05</p>				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3532	Civil - Site	Other	n/a	6-3	
<p>[This item is flagged as a critical issue.] Regarding the use of different design criteria for the levees, i.e., treating them as dams, one consideration is that the dams are design as in-stream structures - by contrast the STAs are all designed with bypass - inflow gates can be shut and all the water diverted around the STAs into the WCAs. For example, for STA-2, G-339 is the bypass structure; the inlet gates at each treatment cell can be closed and then G-339 can be opened and water can bypass the STA into WCA-2A directly. The Operation Plan for STA-2 actually contemplates this during extreme storm events, as the BODR modeled. This factor should allow the existing STA levee design criteria to continue to be used.</p> <p>Submitted By: <u>Gary Goforth</u> (772-223-8593). Submitted On: 01-Apr-05</p>					
1-0	<p>Evaluation For Information Only Comment noted and will be considered in evaluating the use of the existing STA levee design criteria.</p> <p>Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 28-Apr-05</p>				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3533	Civil - Site	Other	n/a	6-4	6
Add "and G-328" after "S-6 pumping station"					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred Agree. Edits to BODR will be made.				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3550	Civil - Site	Other	n/a	page 3	
The BODR document should include separate appendix on <input type="checkbox"/> Hydraulic Design Computations for Inflow and Outflow Water Control Structures <input type="checkbox"/> . This appendix will include hydraulic design criteria, design calculations, assumptions used in design and other pertinent details. The BODR document should include specific section on <input type="checkbox"/> Operations Plan <input type="checkbox"/> . Present Operations Plan for STA2 should be used as a template for this section. The BODR document should include specific section on <input type="checkbox"/> Vegetation Plan <input type="checkbox"/> .					
Submitted By: Chandra Pathak (561-682-2567). Submitted On: 04-Apr-05					
1-0	Evaluation For Information Only The final issue of the BODR will include the hydraulic design calculations for inflow and outflow structures.				
	Submitted By: Emily Mott (5616843456) Submitted On: 29-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3551	Civil - Site	Other	n/a	page 6-4 thru 6-7	
The BODR document provides information in Section 6.3 <input type="checkbox"/> G337A Pumping Station Conversion (pages 6-4 and 6-5). It states that several alternatives were evaluated. The details of these alternatives are NOT provided. They should be described in details and explanation should be provided as to how the recommended alternative was superior to the other alternatives. The BODT document provides information in Section 6.4 <input type="checkbox"/> Cell 4 Inflow Water Control Structures (pages 6-5 and 6-6). As we know, hydraulic calculations used in HEC-RAS for modeling of culvert are not detailed and specific enough that could be used for the design purpose. Therefore, specific hydraulic design calculations for the inflow culverts are needed. It is important to clearly state the assumed discharge coefficients that were used in the design. The BODT document provides information in Section 6.5 <input type="checkbox"/> Outflow Water Control Structures (pages 6-6 and 6-7). As we know, hydraulic calculations used in HEC-RAS for modeling of weir and outlet culvert are not detailed and specific enough that could be used for the design purpose. Therefore, specific hydraulic design calculations for the outflow weirs are needed. It is important to clearly state the assumed discharge coefficients that were used in the design.					
Submitted By: Chandra Pathak (561-682-2567). Submitted On: 04-Apr-05					
Revised 04-Apr-05.					
1-0	Evaluation Concurred Agree. The final BODR hydraulic calculations will state the assumptions used in the design including the discharge coefficients used for the control weir and the culverts design parameters.				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3553	Civil - Site	Design Memorandum or Report	n/a	Exec. Summary p.9	
(Document Reference: CN040935-WO04) Question the need for stilling wells at each inflow structure. Two pair may be adequate based on STA 3-4 design.					
Submitted By: Craig Wilson (561-682-2593). Submitted On: 04-Apr-05					

Revised 04-Apr-05.

1-0	Evaluation Concurred Agree. Given the clustering of the inlet structures at the west end of the cell and the uniform depth across the cell it may be possible to use one measuring station for more than one inlet structure. However, it must be remembered that very small differences in water surface elevation produce large variations in measured flow. This will be addressed in the 30% design submittal. Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3554	Civil - Site	Design Memorandum or Report	n/a	p. 6-3	
Levee design. Is it to be made of mixed fill, peat and limerock, or a lime rock core with peat on side slopes. If mixed what is allowable organic content?					
Submitted By: <u>Craig Wilson</u> (561-682-2593). Submitted On: 04-Apr-05					
1-0	Evaluation For Information Only Generally, levee construction will be on top of existing peat. Some peat will inadvertently be mixed in with the limerock upon excavation however large quantities are not anticipated. Material specifications will be developed in design describing allowable organic content. Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3555	Civil - Site	Design Memorandum or Report	n/a	J. Schedule	
Schedule looks reasonable.					
Submitted By: Craig Wilson (561-682-2593). Submitted On: 04-Apr-05					
1-0	Evaluation Concurred "Schedule looks resonable" No response necessary. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

<u>Id</u>	<u>Discipline</u>	<u>DocType</u>	<u>Spec</u>	<u>Sheet</u>	<u>Detail</u>
3570	Civil - Site	Other	n/a	Pg 6-4	Sec 6.2.2
[This item is flagged as a critical issue.] The canals will be constructed with 2H:1V side slopes in rock cut areas. The sentence which followed recommending steeper cut slopes in rock is consistent with the Geotechnical Engineering Report (Appendix C, Pgs 32 and 33) would provide safer and more efficient drilling and blasting operations. The safety issue might be particularly critical adjacent to the North New River Canal levee. Suggest that vertical (control or release) slopes be used where practical for seepage, efficiency and cost savings.					
Submitted By: <u>John Mills</u> (425-452-8000). Submitted On: 05-Apr-05					
1-0	Evaluation For Information Only Comment noted. Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 29-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3571	Civil - Site	Other	n/a	Pg 6-4	Sec 6.4

Details of the Inflow water control structures are shown in Figures C5 and C6. Since most of the excavation for the structures will be in rock, significant savings may be achieved by using steeper cut slopes. The 66-inch pipes would be better protected against surcharge loads when installed in trenches just wide enough to allow access for placing compacted backfill.

Submitted By: John Mills (425-452-8000). Submitted On: 05-Apr-05

1-0	Evaluation Concurred Agree. The recommendations of the geotechnical report to use steeper cut slopes will be investigated and used in the 30% design submittal if appropriate. Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 29-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3572	Civil - Site	Other	n/a	Pg 6-4	Sec 6.4

[This item is flagged as a critical issue.]

Referencing Figure C6, Section 3, if the bench at El 8.5 would carry any vehicular traffic, the 66-inch pipe needs to be protected from wheel loads by either additional cover or a protective concrete slab to bridge the span of the excavation.

Submitted By: John Mills (425-452-8000). Submitted On: 05-Apr-05

1-0	Evaluation Non-concurred Disagree. The bench shown on Section 3 of Figure C6 at El. 8.5' will be submerged for all operating conditions therefore it will not carry vehicular traffic Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 29-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3573	Civil - Site	Other	n/a	Pg 8-1	Sect 8.1 and Appendix J

Construction Approach and Schedule. The Consultant should consider an expedited alternative for the following modification. To be flow ready as scheduled, the Outlet Structure needs to be started as soon as possible since it is a critical control structure. Since this requires drilling and blasting, rock excavation for this structures and the adjacent canals should be started concurrently with the demolition and other site preparation activities. (P509-4090)

Submitted By: John Mills (425-452-8000). Submitted On: 05-Apr-05

1-0	Evaluation For Information Only Construction of water control structures is expected to occur early in the process since they need to be in place for levee construction over the top of them. This work cannot be started until the 404 permit is issued and therefore, will be in the main construction contract. Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 29-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3574	Civil - Site	Other	n/a	Pg 8-1	Sect 8.1 and Appendix J

Construction Approach and Schedule. The Consultant should consider an expedited alternative for the following modification. To be flow ready as scheduled, the 6 Inlet Structures in the north need to be started as soon as possible since they are critical control structures. Since all of these require drilling and blasting, rock excavation of these structures and the adjacent canals should be started concurrently with the demolition and other site preparation activities. (P509-4090)

Submitted By: John Mills (425-452-8000). Submitted On: 05-Apr-05

1-0	Evaluation For Information Only See response to #3573 Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 29-Apr-05
	<i>Backcheck not conducted</i>

Current Comment Status: **Comment Open**

Id	Discipline	DocType	Spec	Sheet	Detail
3575	Civil - Site	Other	n/a	Pg 8-1	Sect 8.1 and Appendix J
Construction Approach and Schedule. The Consultant should consider an expedited alternative for the following modification. To be flow ready as scheduled, the modification of G-337A and the canal plug needs to be started as soon as possible since it is a critical control structure.					
Submitted By: <u>John Mills</u> (425-452-8000). Submitted On: 05-Apr-05					
1-0	Evaluation For Information Only G337A may need to remain as an active pumping station for as long as possible to assist with construction water management which is expected to be discharged to the existing seepage canal and returned to the inlet of STA 2 for processing and treatment. The construction approach will likely be modified to not include the temporary muck berms and early establishment of vegetation since water depths necessary for SAV will be difficult to maintain through construction. Subsequent conversations with District staff and BC have concluded maintaining the cell in a dry condition until final filling of the cell can commence will be the most advantageous approach. Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 29-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3576	Civil - Site	Other	n/a	Appendix J	Appendix J Construction Schedule
[This item is flagged as a critical issue.] The Outlet Control Structure (P509-4130) is a relatively simple design involving a 228 ft long concrete wall 3 ft high with 22 piers less than 3 ft higher. Assuming a mudmat followed by footing and wall placements 45-ft long should take no more than a month. The east bulkhead wall takes a footing slab and a single 15-ft high placement about 40-ft long. The wing walls will follow up in stairsteps at a 4H:1V slope. The 8 by 8 foot culverts could be precast as indicated in the estimate (App K Pg 7, Item 16) and erected in a shorter time than a CIP type. Total time for the concrete operation should be less than 4 months vs the 8 currently scheduled. The weir plates can be installed concurrently with the box culverts.					
Submitted By: John Mills (425-452-8000). Submitted On: 05-Apr-05					
1-0	Evaluation For Information Only The weir structure has been deleted. The outlet structure will be equipped with motor operated gates that will regulate the water level inside the cell. The schedule will be revised during the 30% design phase once the exact configuration is known. Submitted By: Emily Mott (5616843456) Submitted On: 02-May-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

<u>Id</u>	<u>Discipline</u>	<u>DocType</u>	<u>Spec</u>	<u>Sheet</u>	<u>Detail</u>
3577	Civil - Site	Other	n/a	Appendix J Sheet 3 of 3	Appendix J Construction Schedule
<p>[This item is flagged as a critical issue.]</p> <p>The construction of the 6 Inlet Flow Control Structures (P509-4170) is currently scheduled for about 7 months. This is an activity that can easily be shortened by requiring the contractor to work on more than one pipe concurrently. The Consultant should provide construction staging / access drawings to support the shortened schedule. Each 130-ft long pipe would require only 6 lengths of 66-inch pipe. The compacted backfill will probably take longer than the pipe installation. This could be reduced if the rock is drilled and excavated on steeper slopes as noted in Item 3 above. The inlet and outlet structures are conventional and the 6 by 6-ft slide gates easily installed. The 6 installations should be completed in less than 3 months so that the adjacent levees can be finished.</p> <p>Submitted By: <u>John Mills</u> (425-452-8000). Submitted On: 05-Apr-05</p>					
1-0	<p>Evaluation For Information Only</p> <p>It is expected that the work will proceed on a number of structures concurrently in order to meet the schedule. The contract documents will place great emphasis on the need to begin start-up by December 31, 2006.</p> <p>Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 29-Apr-05</p>				

	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3578	Civil - Site	Other	n/a	Pg 8-2	Section 8.2, Appendix K, Sheet 7 Item 16
Opinion of Probable Construction Cost :Outflow Structures. Drainage, 8'x8' precast box culvert, 8' section. There is no reference to this in the text. The Consultant should provide appropriate calculations and text.					
Submitted By: <u>John Mills</u> (425-452-8000). Submitted On: 05-Apr-05					
1-0	Evaluation For Information Only Four-8'x8' box culverts are shown downstream of the weir on the drawings and are described in the BODR as a part of the proposed outflow structure..				
	Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 29-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3580	Civil - Site	Other	n/a	Appendix K, Pg 9	Appendix K, Item 38
Seed Slopes (includes top 5' on water side) . This may be acceptable on canal levees but it will not meet the District's criteria for embankments around reservoirs or bodies of water subject to wave action and setup during storm events.					
Submitted By: <u>John Mills</u> (425-452-8000). Submitted On: 05-Apr-05					
Revised 05-Apr-05.					
1-0	Evaluation For Information Only The seeded slopes are typical of erosion protection of levees on all STA's constructed to date for SFWMD.				
	Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 29-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3581	Civil - Site	Other	n/a	Appendix K, Pg 9	Appendix K, Item 39
18' Rip Rap. Is the volume of 1,000 cu yards sufficient to cover the entire slope of the inside levees around Cell 4 including the slope of the North New River Canal Levee?					
Submitted By: <u>John Mills</u> (425-452-8000). Submitted On: 05-Apr-05					
1-0	Evaluation For Information Only The rip rap is intended for the intake and discharge areas at the inflow and outflow structures where water velocities are high. No rip rap is planned on the typical STA levee section. The only problems that have been brought to our attention occurred when excess muck was wasted along the base of some levees and some of these areas have eroded in past storms.				
	Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 29-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3582	Civil - Site	Other	n/a	Page 8-3	Sec 8.3.1
The text indicates a startup testing requirement in Cell 4 (before flow through operations can begin) that includes a restriction preventing any discharge until the cell passes a net reduction test that compares a 4-week mean total phosphorus column concentration from samples collected at the Cell 4 outflow structures with those taken at the S-6 pumping station. Provide plates and additional text to fully describe how the temporary return flow (pumping) capability will be accomplished until the stated goal is met per the Everglades Forever Act (EFA) permit modifications.					
Submitted By: <u>John Mills</u> (425-452-8000). Submitted On: 05-Apr-05					

1-0	Evaluation For Information Only See response to #3498 Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 29-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3583	Civil - Site	Other	Sect. 8.3.1		Pg. 8-3
Describe the transition from the temporary startup testing configuration for Cell 4 to the normal operation flow arrangement. Identify any construction sequencing that would be required for this transition. Submitted By: <u>Jack Mowreader</u> (425-452-8000). Submitted On: 05-Apr-05					
1-0	Evaluation For Information Only Upon acceptance of the Net Reduction Test requirements, startup flow through operations can begin. This will be further developed in the Operations Plan developed during design. Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 29-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3584	Civil - Site	Other	n/a		Pg. 6
Do the levee fill quantities allow for the overbuild necessary to compensate for the settlement of the levee fill and supporting foundation material. The Geotechnical Report, App C, includes estimates of peat settlement up to 30 percent during and after construction. The report recommends test fills with settlement plates to determine overbuild requirements. The Consultant should review the Geotechnical Report and provide a recommended approach for both short and long term settlement. Submitted By: <u>Jack Mowreader</u> (425-452-8000). Submitted On: 05-Apr-05					
1-0	Evaluation For Information Only The levee quantities are conceptual at this stage and will be refined in the detailed design. Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 29-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3585	Civil - Site	Other	n/a		Pg. 10
Cell 4 Outflow Structure; The weir is designed to maintain a water depth of 1.25-1.5 feet in the cell etc Submitted By: <u>Jack Mowreader</u> (425-452-8000). Submitted On: 05-Apr-05					
1-0	Evaluation For Information Only comment noted Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 29-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3446	Cost Estimating	Cost Estimate	Estimate Revision Date:: March 18, 2005	Page 8 of 11	25 Fill N/S Ditches
(Document Reference: AppendixK_ProbableConstructionCost.pdf ENR CCI 7297) Backhoe excavating, clean out ditch. = 100 CY/hr - Has no quantity, correct or delete. (Attachment: BODREstReviewCompBApril05.xls) Submitted By: <u>John Rock</u> (561-682-6808). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred				

	Item will be deleted
	Submitted By: Emily Mott (5616843456) Submitted On: 02-May-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3447	Cost Estimating	Cost Estimate	Estimate Revision Date:: March 18, 2005	Page 8 of 11	26 Filling NNRL Ditch
Backhoe excavating, clean out ditch. = 100 CY/hr - Has no quantity - Add qty or delete item.					
Submitted By: John Rock (561-682-6808). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred Item will be deleted.				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3448	Cost Estimating	Cost Estimate	Estimate Revision Date:: March 18, 2005	Page 9 of 11	40 9" Bedding
Bedding, crushed stone 3/4" to 1/2" (Included w/ Inflow Structure) - Has no quantity - Add qty or delete item.					
Submitted By: John Rock (561-682-6808). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred A quantity of 333 cys will be assigned in 30% design.				
	Submitted By: Emily Mott (5616843456) Submitted On: 02-May-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3449	Cost Estimating	Cost Estimate	Estimate Revision Date:: March 18, 2005	Page 7 of 11	14 Clear & Grub
Clear & grub, brush, including stumps has a unit price of \$3,260.28, please review and comment on this - The price appears high for the effort required.					
Submitted By: John Rock (561-682-6808). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred The unit rate will be adjusted to \$1,700 per acre based on past work performed at STA 3/ 4.				
	Submitted By: Emily Mott (5616843456) Submitted On: 02-May-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3450	Cost Estimating	Cost Estimate	Estimate Revision Date:: March 18, 2005	Page 11 of 11	Construction Contingency
Based on current extent of design suggest lowering Contingency to 25%					
Submitted By: John Rock (561-682-6808). Submitted On: 01-Apr-05					
1-0	Evaluation Non-concurred The Acceler8 guidelines require a 30% contingency at this stage.				

	Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3451	Cost Estimating	Cost Estimate	Estimate Revision Date:: March 18, 2005	Page 11 of 11	Project Reserve
Project Reserve - currently at 5% is included in teh Contingency. This line item should be deleted.					
Submitted By: <u>John Rock</u> (561-682-6808). Submitted On: 01-Apr-05					
1-0	Evaluation Non-concurred The Acceler8 guidelines show the 5% Project Reserve as separate from the Contingency to cover change orders.				
	Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3452	Cost Estimating	Cost Estimate	Estimate Revision Date:: March 18, 2005	Page 5 through 11	Recreational Items.
The estimate did not include any of the recreational facilities. Clarification as to the status on the Recreational facilities needs to be made. Will it be included in this project or in the other components.					
Submitted By: <u>John Rock</u> (561-682-6808). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred This is not in the scope of work.				
	Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3453	Cost Estimating	Cost Estimate	Estimate Revision Date:: March 18, 2005	Page 11 through 11	Order of applying markup.
Suggest moving the <input type="checkbox"/> Overhead & Profit <input type="checkbox"/> and the <input type="checkbox"/> Bonds <input type="checkbox"/> items to the direct cost of construction and then applying the contingency.					
Submitted By: <u>John Rock</u> (561-682-6808). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred We agree but again this is where it is shown the Acceler8 guideline.				
	Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3454	Cost Estimating	Cost Estimate	Estimate Revision Date:: March 18, 2005	Page 11 through 11	Total Project Variance.
(Document Reference: AppendixK_ProbableConstructionCost.pdf) The original Cell 4 <input type="checkbox"/> Order of Magnitude <input type="checkbox"/> estimate was @ \$7.6 million for the direct construction cost and \$2.6 million for construction contingency for a total construction cost of \$10.2 The updated estimate indicates a direct Construction cost of \$10.7M plus a markup of \$1.4 M for a total direct Construction cost of \$12.1 million, and a contingency of \$3 million (if applied at 25%) for a revised estimate of \$15.2 Million. A variance report delineating the changes should be provided with each estimate submittal and will be required to justify the price increase within our <input type="checkbox"/> Change Control <input type="checkbox"/> process.					
Submitted By: <u>John Rock</u> (561-682-6808). Submitted On: 01-Apr-05					

Revised 01-Apr-05.

1-0	Evaluation Non-concurred BC did not prepare the previous cost estimate referenced in the comment. The cost estimate presented by BC in the BODR is based on the design presented in the BODR. Any subsequent cost estimates prepared in the design will include a variance report. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3538	Cost Estimating	Other	n/a	8-2	
[This item is flagged as a critical issue.] What would the opinion of probable construction cost be if the exterior levees are not at 19, but at 18.1 - 18.7? Does the cost estimate assume interior levees are also constructed to 19? If so, they should be revised, or a note included to indicate new heights will be estimated during detailed design. The BODR should contrast the cost estimate with that in the Long-Term Plan. Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation For Information Only Levee heights will be determined in detailed design and quantities will again calculated. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3545	Cost Estimating	Other	n/a	Appendix K - page 8	
Stilling wells will be needed upstream of the outlet weir and downstream of the 4 box culverts. I didn't see these in the cost estimate (page 8). Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred The weir is proposed to be deleted in favor of a gated box culvert. However a pair will be provided upstream and downstream of the outlet structure. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3546	Cost Estimating	Other	n/a	Appendix K	
Why is the cost to demo the farm pump house and piping so high (\$50,000 per structure)? Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred This pricing was taken from a previous District estimate. These structures are much smaller and the pricing will be reduced to \$25,000 per unit. Submitted By: Emily Mott (5616843456) Submitted On: 02-May-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3556	Cost Estimating	Design Memorandum or Report	n/a	App. K 3 of 11	
Assumptions 1. No overtime was assumed. Most remote sites like this work 5 or 6 - 10 hour days. Since most of the work is equipment intensive, labor premium time costs are probably offset by decreased days of equipment rental.					

Submitted By: [Craig Wilson](#) (561-682-2593). Submitted On: 04-Apr-05

Revised 04-Apr-05.

1-0	Evaluation For Information Only The estimate is not currently based on overtime utilization. The need for inclusion of overtime factors will be assessed at each refinement of the estimate as the design and anticipated construction schedule progresses through the project. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3557	Cost Estimating	Design Memorandum or Report	n/a	App. K p. 4 of 11	

Union labor rates were used in the selection criteria. This will cause estimate to be conservative since this job site is a non union area. Means uses a geographic adjustment factor of about 75% on installation in the Ft. lauderdale area off the 20 city average. Has this been accounted for?

Submitted By: [Craig Wilson](#) (561-682-2593). Submitted On: 04-Apr-05

Revised 04-Apr-05.

1-0	Evaluation For Information Only The Means national rates were used in preparing the estimate, Then the estimate was adjusted using the Means city index (Division 2 <input type="checkbox"/> site work) for Miami. This results in the prevailing wage rates for Miami. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3558	Cost Estimating	Design Memorandum or Report	n/a	App. K p. 6 of 11	

East Levee. I don't see a borrow excavation or a hauling item. Where is the material coming from. Please add appropriate costs.

Submitted By: [Craig Wilson](#) (561-682-2593). Submitted On: 04-Apr-05

1-0	Evaluation For Information Only We expect to use approximately 118,000 cys of the farm road degrading material in the east levee. The remainder was to come from item 9 - East Levee (Seepage Canal Expansion). However since the collector canal is going to made wider than originally planned Item 9 will be deleted and the balance of the East Levee fill will come from the discharge and collection canals to the south. East Levee embankment rates will be adjusted to account for the additional hauling cost. Submitted By: Emily Mott (5616843456) Submitted On: 02-May-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3559	Cost Estimating	Design Memorandum or Report	n/a	app. k. p. 7 of 11	

Unit price for clearing of \$3260 per acre seems high. It ran about \$1700 per acre for STA 3-4 in 2001.

Submitted By: [Craig Wilson](#) (561-682-2593). Submitted On: 04-Apr-05

1-0	Evaluation For Information Only See response to 3449 Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3560	Cost Estimating	Design Memorandum or Report	n/a	app. K p. 8 of 11	
Is the cost for the precast concrete control buildings included in the control structure electrical item?					
Submitted By: Craig Wilson (561-682-2593). Submitted On: 04-Apr-05					
1-0	Evaluation For Information Only Yes. This is rough and will be re-evaluated in detailed design Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3437	Electrical	Plans and Specs	6.4		
(Document Reference: 6.4) [This item is flagged as a critical issue.]					
There's no reference to generators being furnished for each structure to maintain power during commercial power lost. Our preference is to have generator service to assist us with continued auto operation of the gates. Some provision should be made along these lines to avoid extensive labor involved in manual operation of gate					
Submitted By: Barry Batchelor (561-791-4100 Ext4130). Submitted On: 31-Mar-05					
1-0	Evaluation Concurred The proposed backup for the gate operators is to supply gasoline powered and hydraulically driven gate operators. In the event of an actuator motor failure the gate can still be operated using the gas powered backup. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3440	Electrical	Other	n/a	Pg. 6-6	Sect. 6.4, Para. 1
Provide a more detailed description of the planned power distribution beyond what is provided in the following text: <input type="checkbox"/> Power will likely be provided by a new service drop from lines on U.S. Highway 27, brought across the NNRC and run overhead on poles from west to east along the inflow canal levee. <input type="checkbox"/> Even if the FP&L distribution voltage is unknown at this time, provide information regarding the number of services and the service voltage anticipated for operation of the electric gate operators and telemetry equipment.					
Submitted By: John Mills (425-452-8000). Submitted On: 31-Mar-05					
1-0	Evaluation Concurred This will be addressed in the detailed design phase. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3441	Electrical	Other	n/a	Pg. 6-6	Sect. 6.4, Para. 1
Identify whether SFWMD or FP&L will own and maintain the poleline and distribution transformers. If FP&L will own the line, then their Engineering Department needs to be involved in the planning of this line at a very early stage considering the compressed design and construction schedule for this project. If SFWMD will own the line, briefly discuss the implications of this design approach with regard to ongoing O&M considerations for SFWMD, which might include the stocking of distribution transformers.					
Submitted By: John Mills (425-452-8000). Submitted On: 31-Mar-05					
1-0	Evaluation Concurred This will be addressed in the detailed design phase. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3442	Electrical	Other	n/a	Pg. 6-6	Sect. 6.4, Para. 1
Indicate whether a flat-rate utility charge will apply to the electrical services, if this information is available. Although it may be true that SFWMD may have little control over the rate structure applied to these small services, they may be able to negotiate a more favorable rate, since SFWMD is a valued customer of FP&L.					
Submitted By: John Mills (425-452-8000). Submitted On: 31-Mar-05					
1-0	Evaluation Concurred This will be addressed in the detailed design phase. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3443	Electrical	Other	n/a	Pg. 8-3	Sect. 8.3.2, Para. 1
Regarding the statement <input type="checkbox"/> All gates shall be backed up by portable gasoline powered operators <input type="checkbox"/> , has SFWMD staff determined that this backup gate operation procedure is acceptable when normal power is unavailable. Briefly discuss the impact of this design approach relating to ongoing operation and maintenance under a new subheading <input type="checkbox"/> Ongoing O&M Considerations <input type="checkbox"/> as indicated in Attachment A to the SOW for this BODR.					
Submitted By: John Mills (425-452-8000). Submitted On: 31-Mar-05					
1-0	Evaluation For Information Only This is the District's choice to make during the design phase. However in the event of a motor failure the portable operator can still open and close the gate. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3444	Electrical	Other	n/a	Pg. 8-3	Sect. 8.3.2, Para. 1
Regarding the statement <input type="checkbox"/> Backup power for the instrumentation shall be four hour UPS battery systems <input type="checkbox"/> , has SFWMD staff determined that this type of backup power source is acceptable on occasions when normal power is unavailable. Indicate that the battery / inverter condition would be monitored and any system fault would be transmitted by telemetry to SFWMD. Briefly discuss the impact of this design approach relating to ongoing operation and maintenance under a new subheading <input type="checkbox"/> Ongoing O&M Considerations <input type="checkbox"/> .					
Submitted By: John Mills (425-452-8000). Submitted On: 31-Mar-05					
1-0	Evaluation Concurred The District will provide direction during the design phase. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3445	Electrical	Other	n/a	Pg. 6-5	Sect. 6.3, Para. 3
Discuss aspects of interconnecting the power feeders for the proposed gate operator motors into the G-337A Pump Station existing service equipment, including any anticipated electrical modifications to the station distribution equipment that will be required. Include in this discussion the service equipment ratings and voltages available.					
Submitted By: John Mills (425-452-8000). Submitted On: 31-Mar-05					
1-0	Evaluation Concurred This will be addressed in the detailed design phase. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3547	Electrical	Other	Sect. 3.3		
Provide a more detailed description of the telemetry required to support the fully automated remote operation of the gates and other control devices. The document should state that the control and data reporting systems should be compatible with the SFWMD MOSCAD telemetry system.					
Submitted By: John Mills (425-452-8000). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred This will be addressed in the detailed design phase. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3548	Electrical	Other	Sect. 6.4, Para. 3		page 6-6
Provide a more detailed description of the telemetry required to support the operation of the gates as well as the electronic water level monitoring gauges. The present description indicates that the level monitoring gauges will be located approximately 100 feet away from the upstream and downstream ends of each culvert in the inflow and spreader canals. The document suggests that individual telemetry devices be provided for each point of data/control. Since the equipment is relatively close and will require power as well as communications/control wiring, providing the data and/or control as hard wired points back to a centrally located telemetry control panel should be considered.					
Submitted By: John Mills (425-452-8000). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred This will be addressed in the detailed design phase. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3579	Electrical	Other	n/a	Appendix K	Appendix K, Item 23
Control Structures Electrical. The quantity is 5. There are 6 Inlet Structures and one Outlet Structure that should have such installations.					
Submitted By: John Mills (425-452-8000). Submitted On: 05-Apr-05					
1-0	Evaluation Concurred Yes. This will be corrected. Submitted By: Emily Mott (5616843456) Submitted On: 29-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3398	Environmental/Permit Compliance	Other	n/a		
Background Section For total phosphorus the annual average flow weighted mean outflow values at STA-2 have consistently been BELOW 20 ppb. For water year 2004 (October 1, 2003 □ September 30, 2004) the annual average flow weighted mean outflow TP concentration was 14 ppb. The November 2005 revision to Part 2 of the LTP indicates that vegetation conversion from emergent vegetation to submerged aquatic vegetation (SAV) and construction of internal canals and levees within the existing three treatment cells will not be initiated until flow-through operations of cell 4 begins. Environmental Conditions Section The last sentence of the last paragraph should be changed. The most important issue in the issuance of the 404 permit modification is the USFWS Endangered Species Act consultation and biological opinion of the Florida panther. Regulatory Requirements Section Suggest to add the following underlined words. A modification to the existing Clean Water Act Section 404 Dredge and Fill Permit for the Everglades Construction Project from the USACOE; Modification of the District's existing EFA Permit for STA-2 from the FDEP for construction, operation and maintenance of the Everglades Construction Project (ECP); A modification of the District's existing individual consumptive use permit from FDEP for dewatering during construction; After the sentence&&The District is assuming the lead role in preparing applications and acquiring the necessary 404 and EFA Permits&. Suggestion to add the following&the BC Team will support the regulatory processes by providing needed technical information in order to obtain permit authorization. Additional Comments on Section 4 will be forthcoming					

Submitted By: [ronald bearzotti](#) (561-682-6291). Submitted On: 30-Mar-05

1-0	Evaluation Concurred Agree. Edits to BODR will be made. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3403	Environmental/Permit Compliance	Other	n/a		

See attached document for suggested revisions to BORD, Section 4
(Attachment: [Section4_BODR_RonB_Comments.doc](#))Submitted By: [ronald bearzotti](#) (561-682-6291). Submitted On: 31-Mar-05

1-0	Evaluation Concurred Text revisions incorporated into BODR Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3404	Environmental/Permit Compliance	Other	n/a		

See attached word document for suggested changes to BODR, Section 4
(Attachment: [Section4_BODR_RonB_Comments1.doc](#))Submitted By: [ronald bearzotti](#) (561-682-6291). Submitted On: 31-Mar-05

1-0	Evaluation Concurred Text revisions incorporated into BODR Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3406	Environmental/Permit Compliance	Design Memorandum or Report	n/a		

General Comments: Acronym for US Army Corps of Engineers should be USACE not USACOE. Executive Summary: Pg 5 under Environmental Considerations, Last paragraph, first sentence: " Should replace with this sentence: ☐ The informal Section 7 consultation with USFWS is important in the issuance of the Clean Water Act Section 404 Dredge and Fill permit. This consultation is currently taking place. ☐ " Add: Commitments may be made during the Section 7 consultation that may require pre-construction surveys of listed species and special provisions to be included in the Construction Plans for this project. Site Conditions Pg 2-5, under Environmental Conditions, Last Paragraph, first sentence: " Replace with: ☐ The informal Section 7 consultation with USFWS is important in the issuance of the Clean Water Act Section 404 Dredge and Fill permit. This consultation is currently taking place. ☐ Regulatory Considerations Pg 4-1, Under 4.1 Federal Regulatory Requirements, First paragraph, last sentence: A through survey of the parcel was not conducted. Preconstruction surveys may be needed for burrowing owls, indigo snakes, etc.

Submitted By: [Millie Radzikhovsky](#) (561-682-2082). Submitted On: 31-Mar-05

1-0	Evaluation Concurred Agree. Edits to BODR will be made. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
	Environmental/Permit				

3469	Compliance	Other	n/a	ES - 3	5
A vegetation management plan should be prepared in association with District staff					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred This will be done in the detailed design phase.				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3470	Environmental/Permit Compliance	Other	n/a	ES - 4	last
The PSTA field site contains four 5-acre, not three as indicated					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred Noted. Edits to BODR will be made.				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3471	Environmental/Permit Compliance	Other	n/a	ES - 1	1
[This item is flagged as a critical issue.] Add "The possibility of regulatory and other factors affecting the completion date was contemplated in the November 2004 Long-Term Plan." to the end of the paragraph.					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred Agree. Edits to BODR will be made.				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3472	Environmental/Permit Compliance	Other	n/a	ES - 1	1
[This item is flagged as a critical issue.] Suggest deleting the 2nd sentence and adding the word "peak" before "flows" in the 5th sentence. The peak inflows (from S-6 and G-328) and outflows (from G-335) are not expected to increase, but the volume may increase and the District should have the flexibility to do so. Having the current language remain in the BODR may limit the District's flexibility, particularly if the BODR is used as a basis for a permit.					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred Agree. Edits to BODR will be made. Please note that these comments appear to apply to paragraph 2 on page ES-6 of BODR, not paragraph 1 on page ES-1.. Edits will be made on page ES-6.				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3473	Environmental/Permit	Other	n/a	ES - 8	4

	Compliance				
Suggest adding a reference to the P projections in the Long-term Plan - 10-14 ppb (geometric mean) and 17-28 (flow-weighted mean).					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation Non-concurred The LTP phosphorus projections are based on the enhancements to the existing STA 2 system. The projections do not include the Cell 4 expansion project. Presenting this information might confuse the reader.				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3474	Environmental/Permit Compliance	Other	n/a	ES - 9	1
[This item is flagged as a critical issue.] Elev. of 19.0 is inconsistent with previous page which indicates 18.7 at the north and 18.1 at the south					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation For Information Only The wind and wave analysis resulted in identifying a minimum elevation of 18.7 to 18.1 for the levee heights from the north to south end of Cell 4. The levee heights in the design drawings are depicted at 19.0 feet NGVD. The levee heights will be refined in the detailed design phase of the project. In addition to evaluating the SPS scenario for verification of the established levee heights.				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3476	Environmental/Permit Compliance	Other	n/a	ES - 10	1
Is it necessary to install individual stilling wells upstream and downstream of each inlet culvert? Given the relatively flat water surface elevation, can a lesser number of still wells suffice, say two sets. This will decrease the capital and more importantly, the operating costs and District staff resources associated with maintaining these gages.					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred Agree. This issue will be considered in the 30% design phase				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3480	Environmental/Permit Compliance	Other	n/a	1-1	3
[This item is flagged as a critical issue.] Replace "are needed to consistently meet the 10 ppb criterion" with "may be needed to consistently meet the 10 ppb criterion"					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred Agree. Edits to BODR will be made.				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
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3481	Environmental/Permit Compliance	Other	n/a	1-2	4
Add "The FDEP approved the modification in December 2004." as the second sentence.					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred Agree. Edits to BODR will be made.				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3484	Environmental/Permit Compliance	Other	n/a	1-2	last
[This item is flagged as a critical issue.] Replace "and the treatment cell in active operation by December 31, 2006." with "by December 31, 2006, subject to factors outside the control of the District as described in the November 2004 Long-Term Plan."					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred Agree. Edits to BODR will be made.				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3486	Environmental/Permit Compliance	Other	n/a	1-3	1
[This item is flagged as a critical issue.] Suggest deleting the 2nd sentence and adding the word "peak" before "flows" in the 5th sentence. The peak inflows (from S-6 and G-328) and outflows (from G-335) are not expected to increase, but the volume may increase and the District should have the flexibility to do so. Having the current language remain in the BODR may limit the District's flexibility, particularly if the BODR is used as a basis for a permit.					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred Agree. Edits to BODR will be made.				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3495	Environmental/Permit Compliance	Other	n/a	4-1	
Rather than holding up the STA-2 expansion on issues related to STA-5 expansion, I see no reason why the 404 permit modification couldn't be issued separately for STA-2 Cell 4 and later for the STA-5 expansion.					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred Agree. It may be that separate 404 permits for STA 2 expansion and STA 5 expansion will be needed to allow STA 2/Cell 4 to move forward in a timely manner. The District has already acknowledged this possibility.				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
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3496	Environmental/Permit Compliance	Other	n/a	4-2	
Is the 61,000 acres of mitigation correct? I'm aware of about 21,000 acres, but not 61,000. Please confirm.					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation For Information Only The reference to 61,000 acres came from information supplied to BC from the District. John Mitnik or Ron Bearzotti will need to confirm. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3498	Environmental/Permit Compliance	Other	n/a	4-3	1
Replace "performance" with "start-up" in the last sentence.					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation For Information Only Since outflow culverts will now be gated, flow from Cell 4 can be positively shut off. Accordingly, the need for temporary return flow pumping during start-up operations and performance testing is eliminated. The last sentence in paragraph 1 on page 4-3 will be deleted. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3500	Environmental/Permit Compliance	Other	n/a	4-3	2
Throughout the text, and particularly in the regulatory section, it is important to distinguish start-up operations from flow-through operations. Start-up operations are allowed before issuance of the operating permits, and these operations include bringing water into the cell to facilitate vegetation grow in and management; no discharge is allowed during start-up operations. Flow-through operation, i.e., discharge from the cell to the Everglades, requires operating permits. Suggest adding "flow-through" before "operations" in the last sentence					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred Agreed. Edits will be made. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3529	Environmental/Permit Compliance	Other	n/a	5-10	
Suggest adding a reference to the P projections in the Long-term Plan - 10-14 ppb (geometric mean) and 17-28 (flow-weighted mean).					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation Non-concurred The LTP phosphorus projections are based on the enhancements to the existing STA 2 system. The projections do not include the Cell 4 expansion project. Presenting this information might confuse the reader. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
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3537	Environmental/Permit Compliance	Other	n/a	8-1	
<p>[This item is flagged as a critical issue.] The construction approach section is well thought out, however, it will need to be re-written in part because establishment of SAV is more than just inundation to 1.25 ft: 1. removal of existing emergent vegetation through a combination of mowing, roller chopping, herbicide, and fire. Strips of emergent vegetation should be left on or adjacent to the roads/berms that run east-west across the cell. 2. inundation to 2-3 feet to ensure any remaining emergent vegetation seeds that may germinate, do not survive 3. lowering water levels to 6 inches - 18 inches (depending on light penetration) to allow growth of SAV. 4. Possible use of harvested SAV from Cell 3 to inoculate Cell 4; helicopter application proved effective in STA-3/4 Cell 2B</p> <p>Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05</p>					
1-0	<p>Evaluation Concurred The changes will be made</p> <p>Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05</p>				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

<u>Id</u>	<u>Discipline</u>	<u>DocType</u>	<u>Spec</u>	<u>Sheet</u>	<u>Detail</u>
3539	Environmental/Permit Compliance	Other	n/a	8-2	
<p>Start-up section needs to be re-written consistent with comment above.</p> <p>Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05</p>					
1-0	<p>Evaluation Concurred The changes will be made</p> <p>Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05</p>				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

<u>Id</u>	<u>Discipline</u>	<u>DocType</u>	<u>Spec</u>	<u>Sheet</u>	<u>Detail</u>
3541	Environmental/Permit Compliance	Other	n/a	8-3	2
<p>Replace "performance" with "start-up" in the last sentence.</p> <p>Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05</p>					
1-0	<p>Evaluation For Information Only Since outflow culverts will now be gated, flow from Cell 4 can be positively shut off. Accordingly, the need for temporary return flow pumping during start-up operations and performance testing is eliminated. The last sentence in paragraph 2 of page 8-3 will be deleted.</p> <p>Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05</p>				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

<u>Id</u>	<u>Discipline</u>	<u>DocType</u>	<u>Spec</u>	<u>Sheet</u>	<u>Detail</u>
3542	Environmental/Permit Compliance	Other	n/a	8-3	2
<p>What is meant by "return flow" in the last sentence.</p> <p>Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05</p>					
1-0	<p>Evaluation For Information Only See response to Comment 3541 above</p> <p>Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05</p>				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3543	Environmental/Permit Compliance	Other	n/a	8-3	3
Add "and G-328" after "S-6 pumping station"					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred Agree. Edits to BODR will be made. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3544	Environmental/Permit Compliance	Other	n/a	Appendix G	1st divider page
"Probably" should be "Probable"					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred Agree. Text revision will be incorporated into the BODR. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3566	Environmental/Permit Compliance	Other	n/a	Page 7	3
The ramifications on phosphorus removal of the lower surface elevations of Cell 4 should be evaluated.					
Submitted By: Greg Knecht (8502458428). Submitted On: 04-Apr-05					
1-0	Evaluation For Information Only Phosphorus removal is based on vegetation type and flow loadings to the cell. Cell 4 is designed as an SAV cell with optimum water depths of 1.25 ft to 1.5 ft. maintained at the outlet structure. The lower cell floor elevation will not impact its performance within the STA 2 System. Submitted By: Emily Mott (5616843456) Submitted On: 29-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3463	General	Other	n/a	TOC - 4	EFA definition
definition of EFA should include ",as amended in 2003"					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred Agree. Text revisions incorporated into the BODR. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3464	General	Other	n/a	ES - 1	2
Typo - "atation" should be "station"					

Submitted By: [Gary Goforth](#) (772-223-8593). Submitted On: 01-Apr-05

1-0	Evaluation Concurred Agree. Edits to BODR will be made. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3465	General	Other	n/a	ES - 1	4

Typo - "it's" should be "its"; also, "would" should be "may"

Submitted By: [Gary Goforth](#) (772-223-8593). Submitted On: 01-Apr-05

1-0	Evaluation Concurred Agree. Edits to BODR will be made. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3466	General	Other	n/a	ES - 2	1

Add "The FDEP approved the modification in December 2004."

Submitted By: [Gary Goforth](#) (772-223-8593). Submitted On: 01-Apr-05

1-0	Evaluation Concurred Agree. Edits to BODR will be made. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3468	General	Other	n/a	ES - 3	1

Replace "and the treatment cell in active operation by December 31, 2006." with "by December 31, 2006, subject to factors outside the control of the District as described in the November 2004 Long-Term Plan."

Submitted By: [Gary Goforth](#) (772-223-8593). Submitted On: 01-Apr-05

1-0	Evaluation Concurred Agree. Edits to BODR will be made. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3536	General	Other	n/a	7-3	

Table of contents for the chapter is out of place

Submitted By: [Gary Goforth](#) (772-223-8593). Submitted On: 01-Apr-05

1-0	Evaluation Non-concurred Disagree. TOC is in order. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3455	Geotechnical	Other	n/a	Appendix C, page 11	5.1.3.2 1st paragraph
RQD is not shown on boring logs. Please elaborate on how/when it was obtained.					
Submitted By: <u>Craig Harris</u> (303-291-2243). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred Agree with the comment. RQD information will be incorporated into next submittal "BODR Report". Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3456	Geotechnical	Other	n/a	Appendix C, page 13	6.0, page 13
Include discussion of bedding and jointing of limestone, specifically as it would apply to stability and seepage. (Section 8.1.3.3 is only place jointing is mentioned.)					
Submitted By: <u>Craig Harris</u> (303-291-2243). Submitted On: 01-Apr-05					
1-0	Evaluation For Information Only "The stability and seepage calculations are based on homogeneous, isotropic materials. Seepage along bedding planes and/or joints in the limestone may occur but is difficult to predict. The permeability values selected for the analysis were based upon overall average values for each stratum or formation. The resulting unit rates of seepage are consistent with values predicted by the USACE." Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3457	Geotechnical	Other	n/a	Appendix C, page 16	6.3.1.2,
Elaborate/justify cohesion and friction angle for peat. This material controls the slope stability results. The strength should be based on tests or published test data.					
Submitted By: <u>Craig Harris</u> (303-291-2243). Submitted On: 01-Apr-05					
1-0	Evaluation For Information Only "The design parameters used in the seepage, slope stability, and settlement analyses were derived from our laboratory data and review of published STA-2 and STA-3/4 geotechnical reports (Section 6.3.1.1 Comparison of Geotechnical Design Parameters). As explained in section 10.0 of the report, due to availability of geotechnical data from nearby projects, schedule and other constraints; RADISE was directed to use some of the geotechnical design parameters (muck strata and levee material) and perform analyses based on the data from the Geotechnical Reports made available by the District. Analyses and recommendations submitted in this report are partially based on this data. In the initial stages of the project, it was decided that muck will be removed along the levee alignments. Therefore, limited testing was performed on the surficial muck. As part of the final design additional testing on muck will be performed to confirm the design parameters used in the slope stability and settlement analysis. " Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3458	Geotechnical	Other	n/a	Appendix C, page 19	7.2.1.4
The minimum required factor of safety for rapid drawdown appears to conflict with footnote. Footnote shows higher values. Which is correct? Footnote also shows higher required FS for rapid drawdown from maximum water level. Is this correct?					
Submitted By: <u>Craig Harris</u> (303-291-2243). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred "The values and conditions represented in the footnote are incorrect. The footnote should be as follows: FS = 1.0 applies to short duration of (maximum) water level before rapid drawdown. FS = 1.2 applies to long duration of				

	(maximum) water level before rapid drawdown. Yes, the factor of safety is highest for rapid drawdown from maximum water level because this applies to the worst case scenario. Footnote will be corrected in our next submittal BODR report."
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3459	Geotechnical	Other	n/a	Appendix C, page 25	7.4.5
Recommendation for no upstream erosion protection should be supported based on project or USACE criteria.					
Submitted By: Craig Harris (303-291-2243). Submitted On: 01-Apr-05					
1-0	Evaluation For Information Only Recommendations were based on previous experience on other STAs, SFWMD and USACE criteria. We will look at USACE criteria in detail as part of the Final Design.				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3460	Geotechnical	Other	n/a	Appendix C, page 29	7.5.4
Seepage analysis and exit gradients are based on homogeneous, isotropic material. Address potential for piping due to concentrated flow in joints, layers, or lenses that have higher permeability.					
Submitted By: Craig Harris (303-291-2243). Submitted On: 01-Apr-05					
1-0	Evaluation For Information Only The seepage analysis and exit gradient calculations are based on homogeneous, isotropic materials. Piping due to concentrated flow in joints, layers, or lenses that have higher permeability may occur but is difficult to predict. The permeability values selected for the analysis were based upon overall average values for each stratum or formation. During the initial filling of STA 2, the project construction oversight team observed relatively small seeps exiting the ground surface near the downstream toe of the embankment slopes in some areas. These were caused by nested oversized materials within the embankment and were remediated by placement of approximately 2 feet (thick) of buttress fill on the downstream bench.				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3477	Geotechnical	Other	Section7.5.4	Appendix C, Page 29	Paragraph 2
The material used to raise the downstream bench 2 feet should be more permeable than the embankment to avoid raising the phreatic surface in the embankment.					
Submitted By: Craig Harris (303-291-2243). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred Agree with comment. This may be accomplished utilizing embankment materials placed without benefit of vibratory roller compaction.				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3479	Geotechnical	Other	Section7.5.4	Appendix C, Page 30	Paragraph 1
The calculated factor of safety against piping is less than the "normally specified." How will this be addressed?					

Submitted By: [Craig Harris](#) (303-291-2243). Submitted On: 01-Apr-05

1-0 Evaluation For Information Only
 For steady state seepage under the design water surface elevation (El. +13 feet NGVD) and below, the exit gradients were estimated to be 0.30 or lower. In the event the surface water levels in the STA reach elevation +15 feet NGVD, the exit gradient is estimated to be 0.45. The factor of safety against piping is the critical gradient divided by the exit gradient. For sandy soils, the critical gradient is nearly 1.0 and for the sand-gravel mixtures that will comprise the levee materials, the critical gradient is estimated to be approximately 1.2. The factor of safety against piping, with the STA at elevation +15 feet NGVD, is estimated to be 2.2 for sandy soils and 2.6 for sand and gravel. Considering the short term duration for this loading condition, we believe the factor of safety for piping is acceptable.

Submitted By: [Emily Mott](#) (5616843456) Submitted On: 28-Apr-05*Backcheck not conducted*Current Comment Status: **Comment Open**

Id	Discipline	DocType	Spec	Sheet	Detail
3483	Geotechnical	Other	Section7.5.5	Appendix C, Page 31	Paragraph 1

It appears that the fish pond and the adjacent canal may both extend below the limestone into the sand layer. If so, seepage could "short circuit" and piping could be an issue. Please address.

Submitted By: [Craig Harris](#) (303-291-2243). Submitted On: 01-Apr-05

Revised 01-Apr-05.

1-0 Evaluation For Information Only
 The hydraulic gradient between the area of the Fish Pond and the North New River Canal is estimated to be approximately 0.02, based upon an anticipated differential hydrostatic head of 5 feet under design conditions (i.e. +13 feet in the STA and +8 feet in the canal) over a horizontal distance of 300 feet. Given such low hydraulic gradient, the short term nature of this condition, and the nature of the underlying materials, we do not expect piping to be a significant issue.

Submitted By: [Emily Mott](#) (5616843456) Submitted On: 28-Apr-05*Backcheck not conducted*Current Comment Status: **Comment Open**

Id	Discipline	DocType	Spec	Sheet	Detail
3485	Geotechnical	Other	Section7.10.4	Appendix C, Page 36	Paragraph 4

The NNRC levee will need to be evaluated for suitability as a perimeter levee for Cell 4.

Submitted By: [Craig Harris](#) (303-291-2243). Submitted On: 01-Apr-05

1-0 Evaluation Concurred
 Agree, geotechnical exploration and testing is being addressed as part of a separate work order. Suitability evaluation will be addressed in the as part of the final design.

Submitted By: [Emily Mott](#) (5616843456) Submitted On: 28-Apr-05*Backcheck not conducted*Current Comment Status: **Comment Open**

Id	Discipline	DocType	Spec	Sheet	Detail
3487	Geotechnical	Other	Section 8.1.3.1	Appendix C, Page 39	Paragraph 4

Is the recommendation for +3% of optimum moisture content supported by test data?

Submitted By: [Craig Harris](#) (303-291-2243). Submitted On: 01-Apr-05

1-0 Evaluation For Information Only
 Yes, the criteria for +3% is not based on test data of STA-2.

Submitted By: [Emily Mott](#) (5616843456) Submitted On: 28-Apr-05

	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3492	Geotechnical	Other	Section 8.1.3.1	Appendix C, Page 39	Paragraph 6
What is basis for the recommended lift heights?					
Submitted By: <u>Craig Harris</u> (303-291-2243). Submitted On: 01-Apr-05					
1-0	Evaluation For Information Only Based on past experience in the project vicinity, STA-3/4 and STA-2. Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3501	Geotechnical	Other	n/a	Dwg C5 of X	
The design criteria for the pipe penetrations should meet District standards.					
Submitted By: <u>Craig Harris</u> (303-291-2243). Submitted On: 01-Apr-05					
Revised 01-Apr-05.					
1-0	Evaluation Concurred Final design will conform with the District's criteria Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
4010	Groundwater	Design Memorandum or Report	n/a		
Comments from Dr. Bob Kadlec. Please provide response. (Attachment: STA2C4BODRCommentsRHK.pdf)					
Submitted By: <u>Becky Hachenburg</u> (561-682-2654). Submitted On: 25-Apr-05					
1-0	Evaluation For Information Only Please see the attached pdf document for the response to these comments. Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 02-May-05 (Attachment: M050205_Kadlec.pdf)				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3561	Hydraulics	Other	n/a		
Appendix E, F and G: the hydraulic analyses appears to be well done. However, the explanation of the methodology used, presentation of inputs and outputs in an easy to review form and a good discussion of the results and any results which are sensitive to assumptions or lack of data is lacking. Please revise the BODR accordingly.					
Submitted By: <u>John Mills</u> (425-452-8000). Submitted On: 04-Apr-05					
1-0	Evaluation Concurred Agree. Additional discussion in section 5 will provided further clarification of the model approach and integration between models objectives and results in the final BODR. Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 29-Apr-05				
	<i>Backcheck not conducted</i>				

Current Comment Status: Comment Open					
Id	Discipline	DocType	Spec	Sheet	Detail
3562	Hydraulics	Other	n/a	Dwg.C4	
For Section 1, consultant should explain how seepage to west will be addressed (see next comment).					
Submitted By: John Mills (425-452-8000). Submitted On: 04-Apr-05					
1-0	Evaluation For Information Only Seepage to the West will not be contolled as that side of the project is bounded by the North New River Canal. The existing canal levee is substantial. Water levels in the canal may be above cell operating levels for periods of time. Head differences are expected to be slight and seepage in or out will not be a factor. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3563	Hydraulics	Other	n/a	Dwg.C4	
For Section 2, Consultant should consider vertical slopes in inflow canal to minimize seepage impact to north. (See previous comment).					
Submitted By: John Mills (425-452-8000). Submitted On: 04-Apr-05					
1-0	Evaluation For Information Only Seepage concerns to the north are a temporary issue and will be addressed in final design. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3564	Hydraulics	Other	n/a	Dwg.C3	
Outlet control structure is now shown on Sheet C6 as indicated.					
Submitted By: John Mills (425-452-8000). Submitted On: 04-Apr-05					
1-0	Evaluation Concurred Agree. Sheet C6 reference to Outlet Control Structure will be revised to Sheet C7. Submitted By: Emily Mott (5616843456) Submitted On: 29-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
4009	Hydraulics	Design Memorandum or Report	n/a		
(Document Reference: IMC Comments) See attached comments from IMC. Please submit responses to each comment. (Attachment: MSR114STA2_Cell4Review-report-4-4-05-final.doc)					
Submitted By: Becky Hachenburg (561-682-2654). Submitted On: 25-Apr-05					
1-0	Evaluation For Information Only Please see the attached excel spreadsheet for the BC responses. Submitted By: Emily Mott (5616843456) Submitted On: 29-Apr-05 (Attachment: IMC_Responses.xls)				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3395	Hydrology	Other	n/a		

[This item is flagged as a critical issue.]

I understand that there will be box culverts with a weir for the discharge structure. Will the weir have a gate to allow for a draw down? A similar structure is the G-330 A-E structures in Cell 1.

Submitted By: Neil Larson (561-682-6292). Submitted On: 28-Mar-05

1-0	Evaluation For Information Only Current consensus is to eliminate the weir as the control structure. In this case the issue of having a low-level outlet gate is not necessary since a gated box culvert structure will allow cell dewatering. However, had the weir remained, a low-level gate would've been provided in the 30% design submittal. Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3396	Hydrology	Other	n/a		

[This item is flagged as a critical issue.]

I understand that Seepage pump station G-337 may be used as a means to dewater Cell 4. Has an engineer reviewed this plan to determine that this Pump can handle the existing seepage and the dewatering and not impact the farmer to the west and north.

Submitted By: Neil Larson (561-682-6292). Submitted On: 28-Mar-05

1-0	Evaluation For Information Only A water control management plan is currently under consideration and further details about dewatering will be incorporated in the 30% plans Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3399	Hydrology	Design Memorandum or Report	n/a		

Page 5-9 of BODR, fourth bullet Seepage Rates: Text indicates range in value of the Seepage Rate from 3 to 4 cfs PFHML. Recommends usage of an average value, 3.5 cfs PFHML. Geotechnical report indicates predicted rate of 3.6 to 3.7 cfs PFHML. Values of up to 4.2 cfs PFHML were field measured in 1999. At this stage in the design, a more conservative (higher) seepage rate may be more appropriate. Author should provide references in body of text.

Submitted By: Mark Abbott (954-851-1549). Submitted On: 30-Mar-05

1-0	Evaluation For Information Only A sensitivity analysis was conducted in DMSTA by increasing the seepage rates (inflow and outflow) by +/-25% prior to the submittal of the draft BODR; there was no significant effect (less than 0.4 percent change) on the predicted outflow TP concentrations. References to the results of the geotechnical investigations will be added to the BODR. Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3400	Hydrology	Design Memorandum or Report	n/a		

Page 5-9, Table 5.5 Estimated Seepage Rates used for DMSTA Analyses Author uses differing units for seepage rates than presented in text. In text, seepage rate is provided in cfs PFHML (cubic feet per second, per foot of head difference, per mile of levee). This is the standard unit from past work. In Table 5.5, the Seepage Rate is presented in terms of cubic feet per day per foot per foot. The presented coefficients for seepage rate are between 23 and 54 percent lower than the recommended value.

Submitted By: Mark Abbott (954-851-1549). Submitted On: 30-Mar-05

1-0	Evaluation For Information Only The units as presented in Table 5.5 correspond to the units required for DMSTA model input. The rates presented in Table 5.5 correspond to the values presented in the text after unit conversions are performed. Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 28-Apr-05
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	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3401	Hydrology	Design Memorandum or Report	n/a		

(Document Reference: Appendix C - Draft Geotech Report) Section 7.4 Seepage Evaluation, Page 27. No source provided for permeability values. Past work at STAs suggest that the values can be up to 5 times greater. In particular, work at STA 3/4 estimated permeability of the sand and gravel with limestone lenses at between 315 and 350 ft/day, rather than the 100 ft/day shown. Need to provide source and, if necessary modify to be consistent with past work and re-evaluate calculations.

Submitted By: Mark Abbott (954-851-1549). Submitted On: 30-Mar-05

1-0	Evaluation For Information Only Agree that locally very high permeability values exist within the sand and gravel (with limestone lenses) formation that exists below the caprock. However, we believe that utilization of a permeability of 100 feet per day for the sand and gravel materials that exist below the caprock represents an appropriate overall average value for this formation. This is supported by the results of the seepage evaluation which predicts a unit rate of seepage in the range of 3 to 4 cfs per foot of head per mile of levee for the STA 2 Expansion project. These predictions are consistent with historical work by the USACE and with the results of a hydraulic load test on a 4-mile length of the Inflow Canal during the start-up of STA 2. Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 28-Apr-05				
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	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3402	Hydrology	Design Memorandum or Report	n/a		

(Document Reference: Appendix C - Draft Geotechnical Report) 7.5.5 Fish Pond Parameters used in the MODFLOW analysis are not consistent with conceptual understanding. Higher value parameters representative of the fish pond should be applied to the layers which the fish pond penetrate. Based on my understanding, the fish pond excavation penetrates the cap rock. This would extend the larger coefficients at least through layer 3. In addition, the permeability of Layer 4 seems too low based on local experience. The connection of the fish pond to the high permeability layer four would suggest the seepage losses should be higher than predicted. Author should consider re-evaluation of the applied parameters and re-performing analysis

Submitted By: Mark Abbott (954-851-1549). Submitted On: 30-Mar-05

1-0	Evaluation Concurred The Modflow analysis completed for the fish pond evaluation began with the aquifer parameters listed in the table provided within the Geotechnical Report. The permeability values for Layers 3 and 4 were increased until the total flow was predicted to be similar to that obtained from the SEEP2D analysis for similar boundary conditions. Final permeability values of 100 and 400 feet per day were used for Layers 3 and 4, respectively. Even with such high permeability values, the difference between the model runs with and without the fish pond was considered to be insignificant. However, we recognize the need for additional model refinements related to the fish pond evaluation. We recommend additional SPT borings with carefully monitored drilling fluid circulation losses in combination with a revised MODFLOW model to provide such model refinements. Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 28-Apr-05				
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	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3461	Hydrology	Other	n/a		Sect.5.1.1

General Question: Is an unsteady flow simulation using HEC-RAS planned during later phases of engineering for Cell 4? (Draft)

Submitted By: John Mills (425-452-8000). Submitted On: 01-Apr-05

Revised 01-Apr-05.

1-0	Evaluation For Information Only No, additional unsteady flow scenarios are proposed to be modeled using CHAN. Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 28-Apr-05				
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	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3462	Hydrology	Other	n/a	p. 5-2	Sect.5.1.2.1
Please show location of eastern most inflow culvert to Cell 3 on Sheets C2 and / or C3 for a point of reference. (Draft)					
Submitted By: John Mills (425-452-8000). Submitted On: 01-Apr-05					
Revised 01-Apr-05.					
1-0	Evaluation Concurred An schematic of the HEC-RAS model will be included in Appendix E documenting the model features including the eastern most Cell 3 culvert Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3467	Hydrology	Other	n/a	p. 5-3	Sect. 5.1.2.1, Para.1
1st sentence: Does the word "fill" refer to levee fill. Please clarify. (Draft)					
Submitted By: John Mills (425-452-8000). Submitted On: 01-Apr-05					
Revised 01-Apr-05.					
1-0	Evaluation For Information Only Yes. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3475	Hydrology	Other	n/a	p. 5-3	Sect. 5.1.2.1, Para. 1
Pump station G-335: Even though data concerning this pump station may be found in the referenced GDR, it is essential to include pertinent data about the pump station within this discussion, such as # of pumps, etc. as a basis for establishing the 8.9 ft NGVD elevation. (Draft)					
Submitted By: John Mills (425-452-8000). Submitted On: 01-Apr-05					
Revised 04-Apr-05.					
1-0	Evaluation Concurred Pump staion information added to the text of the BODR Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3478	Hydrology	Other	n/a	ES - 11	last
[This item is flagged as a critical issue.] Additional hydraulic simulations will be needed to better understand the operational relationship between Cell4 discharge structures and the other discharge structures (G-332, G-334 and G-335). Suggest a 2D hydraulic simulation during the next step in design to link Cell 4 to the other STA-2 Cells in order to evaluate the operations flexibility and limitations. Sutron has just finished a linked STA-2 model that could be used as a basis for this additional simulation.					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					

1-0	Evaluation For Information Only Modeling of the 4 cell system is proposed to be conducted in the design phase scope of work utilizing CHAN. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3482	Hydrology	Other	n/a	p. 5-3	Sect. 5.1.2.1, Para. 1
Additional discussion concerning the relationship between the FESWMS modeling of the Cell and HEC-RAS □ cell body □ modeling is needed for clarity. (Draft) Submitted By: John Mills (425-452-8000). Submitted On: 01-Apr-05 Revised 04-Apr-05.					
1-0	Evaluation Concurred Agree. Edits to BODR will be made. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3488	Hydrology	Other	n/a	1-4	1
Additional hydraulic simulations will be needed to better understand the operational relationship between Cell4 discharge structures and the other discharge structures (G-332, G-334 and G-335). Suggest a 2D hydraulic simulation during the next step in design to link Cell 4 to the other STA-2 Cells in order to evaluate the operations flexibility and limitations. Sutron has just finished a linked STA-2 model that could be used as a basis for this additional simulation. Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation For Information Only Repeat comment. See response to #3478 Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3489	Hydrology	Other	n/a	1-4	1
Actually, four storms affected South Florida in the summer of 2004 - Charley, Frances, Ivan and Jeanne (a large section of Ivan spun around clockwise after landfall in Pensacola and came across Martin & Palm Beach County, and dropped 5 inches of rain just before Jeanne came through). Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation For Information Only Repeat comment. See response to #3479 Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3494	Hydrology	Other	n/a	3-2	
Suggest adding the word "peak" before "flow" in the 1st bulleted item (both 1st and 2nd sentences). The peak inflows (from S-6 and G-328) and outflows (from G-335) are not expected to increase, but the volume may increase and the District should have the flexibility to do so. Having the current language remain in the BODR may limit the District's flexibility, particularly if the BODR is used as a basis for a permit.					

Submitted By: [Gary Goforth](#) (772-223-8593). Submitted On: 01-Apr-05

1-0	Evaluation Concurred Agree. Edits will be made. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3497	Hydrology	Other	n/a	4-3	1

The use of the word "connection" is ambiguous, for it could mean the physical connection made when the outlet structures are constructed, or the operational connection when flow from Cell 4 passes into the discharge canal. Suggest "connection" be replaced with "discharge".

Submitted By: [Gary Goforth](#) (772-223-8593). Submitted On: 01-Apr-05

1-0	Evaluation Concurred Agree. Edit will be made. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3499	Hydrology	Other	n/a	4-3	1

What is meant by "return flow" in the last sentence.

Submitted By: [Gary Goforth](#) (772-223-8593). Submitted On: 01-Apr-05

1-0	Evaluation For Information Only Return flow means that the flow will need to be re-circulated in Cell 4 until the performance test period is completed. Since outflow culverts will now be gated, flow from Cell 4 can be positively shut off. Accordingly, the need for temporary return flow pumping during start-up operations and performance testing is eliminated. The references in the text to return flow will be deleted. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3502	Hydrology	Other	n/a		

G-337A structure: the text in section 6.3 states "the bulkhead wall contains four 40 inch x 80 inch rectangular openings", the openings in HEC-RAS input are coded as 3.93' x 7.27'. The consultant should resolve. (Draft)

Submitted By: [John Mills](#) (425-452-8000). Submitted On: 01-Apr-05

Revised 04-Apr-05.

1-0	Evaluation Concurred The source of the dimensions given in Section 6.3: "four 40 inch x 80 inch rectangular openings" is the As-built Sheet 5/19 dated 2/20/02 and it will be used in the revised HEC-RAS model. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3503	Hydrology	Other	n/a		

G-337A structure: This structure should be analyzed for proposed operation as an in-line gated structure. (Draft)

Submitted By: [John Mills](#) (425-452-8000). Submitted On: 01-Apr-05

Revised 04-Apr-05.

1-0	Evaluation Concurred Agree. The model will be revised accordingly. Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3505	Hydrology	Other	n/a	5-2	

[This item is flagged as a critical issue.]

1. A much better description of the HECRAS modeling is suggested, particularly to describe the network, with the lateral structures, how the treatment cell was modeled, how the discharge structure was modeled ("90-degree" bend); by contrast, the description of the 2D modeling (FESWMS) in Appendix F is very complete. 2. A table of HW and TW stages with flow, and the flow coefficients used, for each structure should be added to the text. The calculated head loss across each structure and across the treatment cell should be compared to observed head losses in STA-2 Cell 3. 3. Please justify the use of the various Manning's "n" values, including the justification for values of 0, and differences with the values used in the 2D modeling. 4. Additional description of the hydraulic calculations associated with the outlet weir and box culverts is needed for clarity and review purposes.

Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05

1-0	Evaluation Concurred The HECRAS model description will be revised to address this comment Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3506	Hydrology	Other	n/a		

Even though the inflow canal is oversized for earthwork balance, suggest HEC-RAS simulation of canal flowline at elevation -2.0 (existing inflow canal elev.) instead of -5.5 to confirm acceptable flow conditions. (Draft)

Submitted By: John Mills (425-452-8000). Submitted On: 01-Apr-05

Revised 04-Apr-05.

1-0	Evaluation For Information Only Refinement of canal dimesions and earthwork balance will be conducted in design. Any canal changes will be rechecked in the models to assure adequate hydraulic performance. Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3507	Hydrology	Other	n/a	Appendix E	

[This item is flagged as a critical issue.]

1.What is the ~ 0.5 ft hump in the ground elevation in the cell body shown in Appendix E figures between reviser stations 5120 and 6500? This is contrary to the text on page 2-3 that states the center area is about 0.5 ft lower than the east and west sides. Also, the average ground elevation appears to be between 8 and 8.25 ft based on the figures in the appendix; this is inconsistent with the values used in Appendix F (see page 3) which has an average ground elevation of 8.9 ft. 2.What is the hump in the discharge canal bottom elevation (section 3600-7600)?

Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05

1-0	Evaluation For Information Only The rise in the model profile of the cell floor shown between sections 5120 and 6500 is because the bottom of the subcell represented by these two sections is higher than the other three. The HECRAS model profiles the river talweg not the average cross section elevation. The hump on the discharge canal is an error that will be corrected in the final BODR issue. Submitted By: <u>Emily Mott</u> (5616843456) Submitted On: 28-Apr-05
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	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3508	Hydrology	Other	n/a		
Mannings <input type="checkbox"/> n <input type="checkbox"/> value of .044 were used for the canal channel and for the <input type="checkbox"/> cell body <input type="checkbox"/> . Please clarify in the text how these values were derived. (Draft)					
Submitted By: John Mills (425-452-8000). Submitted On: 01-Apr-05					
1-0	Evaluation For Information Only The Manning "n" values used in the model were taken from the GDR Basis of Design Table ES-3 for the approximate hydraulic radii of the canals. These are conservative values that reflect the level of maintenance of the canals and result in project features better able to handle the most severe operating conditions. The n values modeled for the cell body were actually modeled as depth-dependent (the same values as used as in the FESWMS model), not as 0.044. For some reason, the print-out of the HEC-RAS model input shows the manning's n values . The text of the report will be modified to clarify this issue. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3509	Hydrology	Other	n/a		
For report clarity, include a RAS cross-section plot of the G-337A <input type="checkbox"/> culverts <input type="checkbox"/> with the profile plots at the back of Appendix E. (Draft)					
Submitted By: John Mills (425-452-8000). Submitted On: 01-Apr-05					
Revised 04-Apr-05.					
1-0	Evaluation Concurred Agree. A cross section of G-337A will be included in Appendix E Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3510	Hydrology	Other	n/a	Appendix E	
Figures at the end of appendix are labeled "HIGH FLOW SCENARIO" - these should be "DESIGN FLOW SCENARIO"					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred Agree. Edits will be made. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3511	Hydrology	Other	n/a		
The low flow scenario <input type="checkbox"/> inflow canal water surface profile plot appears to represent the design flow condition. Please provide revised plot. (Draft)					
Submitted By: John Mills (425-452-8000). Submitted On: 01-Apr-05					
1-0	Evaluation Non-concurred Disagree. Appendix E, HEC-RAS Model Documentation, the representation of the low flow inflow canal water surface profile is consistent with the model output for this portion of the model. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				

	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3512	Hydrology	Other	n/a	Appendix F page 3	1
Inflow into the inflow canal includes S-6 and G-328, in addition to G-337. Suggest adding S-6 and G-328 to this sentence.					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred S-6 and G-328 have been added in the final report Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3515	Hydrology	Other	n/a	5-7	
A much better description of the CHAN modeling is needed in order to understand the model and results.					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred Agree. Edits to BODR will be made. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3516	Hydrology	Other	n/a	5-7	
[This item is flagged as a critical issue.] The uncertainty in the ground elevation needs to be resolved with additional topographical data. How would the results of the HECRAS and CHAN modeling change if the ground elevation is 0.5 ft higher or lower? How would the structure inverts, weir crests, etc., change if the ground elevation is 0.5 ft higher or lower?					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation For Information Only Additional topographic survey will be collected during detailed design. This topographic data will be incorporated into the appropriate models to verify the current design. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3517	Hydrology	Other	n/a	App F	14
Text states that the CHAN model was used by BC to establish the values at the inlet culverts and the head at the outlet weir - this is contrary to the text in section 5 that states the HECRAS was used for this purpose - which is correct?					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation For Information Only The HECRAS model was used to establish the discharges at the downstream end of the inlet culverts and head at the outlet weir for the Low and Design Flow Scenarios. The CHAN model was used to establish the head at the downstream weir for the PMS event condition. This has been clarified in the final report. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3518	Hydrology	Other	1	App F	15
1st bullet is duplicated from the bottom of page 14					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred The duplicated bullet has been removed from the report Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3519	Hydrology	Other	1	App F	23
Figure 4.5 Legend should replace "Low Flow Condition" with "Design Flow Condition"					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred The caption on Figure 4.5 has been updated in the final report Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3520	Hydrology	Other	n/a	App F	27
What is the meaning of the text above Figure 5.1?					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred The text above Figure 5.1 was unnecessary and has been removed Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3521	Hydrology	Other	n/a	App F	33
"Figure 4.14" should be "Figure 5.9" Also, add "unit" before the word "flow" in the same sentence. "Figure 4.12" should be "Figure 5.7" "Figure 4.13" should be "Figure 5.10" "Figure 4.16" should be "Figure 5.11"; "Figure 4.17" should be "Figure 5.12"					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred The figure numbers and text have been updated in the final report Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3522	Hydrology	Other	n/a	App F	37
[This item is flagged as a critical issue.] Is the gently rolling water depths ranging from 1.5 ft to 2.5 ft for Sub-cell 1 an artifact of the ground elevation interpolation program? If so, please state. Please include a similar chart of the ground elevation along each of the transects. This is very important for the District's vegetation management purposes.					

Submitted By: [Gary Goforth](#) (772-223-8593). Submitted On: 01-Apr-05

1-0	Evaluation For Information Only Elevation profile graphs have been included in the final report. The topography data used to generate the DTM for the model were very limited, so the rolling water depths in subcell 1 are a product of linear interpolation between data points sparsely distributed in the cell. To clarify this issue, more detailed topographic data in the main body of the cell are needed. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3523	Hydrology	Other	n/a	App F	42
"1.6 ft NGVD" should be "11.6 ft NGVD"					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred The value has been updated to 11.6 ft NGVD in the final report Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3524	Hydrology	Other	n/a	App F	51
Please justify the statement that using the CHAN results is conservative.					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation For Information Only The water surface elevation for the PMS event were computed by adding the head loss of the Design Flow event to the peak water surface elevation during the PMS event. The velocity head across the cell corresponding to the Design Event is greater than the head of the PMS event. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3525	Hydrology	Other	n/a	App F	53
"Table 4.10" should be "Table 5.1"					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred Edits will be made to the report. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3526	Hydrology	Other	n/a	App F	65
Why are the values for wave height and wave period different than reported in the text on page 61?					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation For Information Only Table 6.1 has changed: wave height was corrected to 1.5 ft and period to 2.4 sec. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				

	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3527	Hydrology	Other	n/a	5-4	
Table 5-1 - the second "Case 1" should be "Case 2"					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation For Information Only Agree. Edits to BODR will be made. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3528	Hydrology	Other	n/a	5-10	Table 5-6
[This item is flagged as a critical issue.] Table 5-6 indicates an average ground elevation of 8.6 ft NGVD. This is inconsistent with Appendix F (2D modeling) which states the average ground elevation is 8.9 ft NGVD. A common value should be used and all analyses should use that value; if insufficient topography data are available at this time, this should be noted and data collected and all critical analyses should be confirmed using the new value.					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation For Information Only The average ground elevation has been revised to 8.6 ft NGVD in the final report to be consistent with the method used by Brown & Caldwell to calculate the average ground elevation. However, there is a large uncertainty about the average ground elevation due to the limited number of survey data points in the original dataset. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3534	Hydrology	Other	n/a	6-6	1
It isn't necessary to install individual stilling wells upstream and downstream of each inlet culvert. Given the relatively flat water surface elevation, can a lesser number of still wells suffice, say two sets. This will decrease the capital and more importantly, the operating costs and District staff resources associated with maintaining these gages.					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation Concurred Agree. The number proposed has been reduced. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3535	Hydrology	Other	n/a	6-6	
[This item is flagged as a critical issue.] Suggest the blade of the outlet weir be movable up or down a few inches in case future adjustments need to be made, e.g., if the topography is different from the assumed 8.6 ft NGVD (or 8.9 ft NGVD according to Appendix F 2D hydrodynamic modeling). This would likely double the size of the plate, currently sized at 12-inches wide. Fortunately, the additional cost should be insignificant (Appendix K identifies the plates at less than \$10,000).					
Submitted By: Gary Goforth (772-223-8593). Submitted On: 01-Apr-05					
1-0	Evaluation For Information Only Structure is proposed to be modified to a gated box culvert. Weir structure will be removed Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				

	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3540	Hydrology	Other	n/a	8-3	2

The use of the word "connection" is ambiguous, for it could mean the physical connection made when the outlet structures are constructed, or the operational connection when flow from Cell 4 passes into the discharge canal. Suggest "connection" be replaced with "discharge".

Submitted By: [Gary Goforth](#) (772-223-8593). Submitted On: 01-Apr-05

1-0	Evaluation Concurred Agree. Edits to BODR will be made. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3549	Mechanical - Miscellaneous	Design Memorandum or Report	n/a		

This comment supersedes the one provided by Vikram Negi. SFMWD Cell 4 Basis Of Design Report (BODR) Comments On Inlet/Outlet Structures Gates Description A. Executive Summary, Conceptual Design of Project Elements: 1. Cell 4 Outlet: Indicate provision of bulkheads/stoplogs and bulkhead/stoplog slots for cell isolation. 2. Preliminary Operation Plan: Indicate how will the bulkheads/stoplogs be operated (by the truck crane and a lifting beam?) and where will they be stored when not in use. B. Section 1.3, Paragraph 2: Describe gates as slide gates with motorized operators for the four pump inlet openings. C. Section 3.3, Paragraph 5: The reports states that the cell 4 outlet structure will include bulkheads/stoplogs. The bulkheads/stoplogs, presumably, will not be operated by motorized operators. Therefore reference to the outflow control structure should be removed with respect to telemetry and remote operation (unless gates with motorized operators will be used instead of bulkheads/stoplogs). It is understood that the only outflow structure is Cell 4 outlet structure, as shown on Sheet 7 of the drawings, because the report or the drawings do not appear to include any other outflow structure. D. Section 6.1, Paragraph 2: Substitute ☐ actuated gates ☐ with ☐ motorized slide gates ☐. E. Section 6.3: The four 40" X 80" openings in the bulkhead wall for mounting the new slide gates are not shown on the drawings. This should be done. Also, in the second to last sub-paragraph, substitute ☐ actuated gates ☐ with ☐ weatherproof motorized slide gates ☐ suitable for operation locally and remotely. F. Section 6.4: 1. Culvert locations are not clearly shown on drawing C2. 2. Add ☐ weatherproof ☐ before motorized operator. G. Section 6.4: 1. Describe the purpose, size, handling procedure, storage location, and operation criteria of the bulkheads/stoplogs including whether the bulkhead will be opened and closed against full head or balanced head pressure conditions. If under balanced pressure condition, how will the pressure balance be achieved. 2. Will there be only one bulkhead covering all four opening or one bulkhead per opening? It appears that there may not be sufficient room between the openings to provide guides for separate bulkheads. In case only one bulkhead is provided, there may be handling issues which may need to be addressed. General: Use the term either ☐ bulkhead ☐ or ☐ stoplog ☐ throughout the report. Currently both terms are used interchangeably.

Submitted By: [Chander Sehgal](#) (312-831-3184). Submitted On: 01-Apr-05

1-0	Evaluation For Information Only The text of the report has been changed to respond to these comments. However, responding to other comments such as 3397, the bulkheads will be replaced by needle beams. Needle beams will be handled by a truck mounted crane and stored in a rack. Needle beams will be installed under balanced head conditions and the culvert will be dewatered by a sump pump. The details will be shown in the 30% design submittal. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3568	Mechanical - Miscellaneous	Design Memorandum or Report	n/a	7	

(Document Reference: Executive Summary) From Cal Neidrauer: Executive Summary, page 7, para following element #7: The lack of a controllable Cell 4 outflow structure will significantly reduce operational capability which could lead to reduced treatment potential for Cell 4 and Cells 2 & 3. There will undoubtedly be a need to manage vegetation in Cell 4 via lowering stages below the weir crest elevation of 9.65 ft. The current design does not provide this capability. A controllable Cell 4 outflow structure could provide the ability to draw down Cell 4 and also to preserve the necessary operating capability of G-332, G-334 & G-335. Without control of Cell 4 outflows, Cell 4 may also have to be drawn-down if drawdowns are needed in Cells 2 & 3.

Submitted By: [Becky Hachenburg](#) (561-682-2654). Submitted On: 05-Apr-05

1-0	Evaluation For Information Only
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	Subsequent discussions with the District operations staff has resulted in a recommended change of the discharge structure for Cell 4 to a gated box culvert with telemetry and remote control. This will allow greater operational flexibility and control of the entire system. Cell 4 was designed within the operational ranges of the existing STA 2 system as defined in the Operations Plan.
	Submitted By: Emily Mott (5616843456) Submitted On: 29-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3567	Mechanical - Pump Stations	Design Memorandum or Report	n/a	6	
(Document Reference: Executive Summary) From Cal Neidrauer: Executive Summary, page 6, principal element #3 last sentence: <input type="checkbox"/> To avoid costly construction of a new seepage canal, temporary seepage pumps will be placed in the existing farm ditch along the south side of the Woerner property to return seepage flows from Cell 4 back to the cell. <input type="checkbox"/> It <input type="checkbox"/> s clear that seepage control will not be as important once the Woerner property lease expires in February 2007. Whether or not this timing is realized, there will be a need to operate these temporary seepage pumps, and possibly for an extended timeframe. Who is envisioned to operate these pumps? Manual operation will be expensive. Suggest consideration of automation with plan to redirect telemetry & pumping equipment after farming ceases in Woerner property.					
Submitted By: Becky Hachenburg (561-682-2654). Submitted On: 05-Apr-05					
1-0	Evaluation For Information Only We would recommend that an allowance account be included in the contract to cover up to three months of pumping costs. We require the contractor to be responsible for operating the temporary pumping system as needed to maintain the water level in the farm ditch at or below elevation 8.0 or higher if requested in writing by the farm manager of the Woerner property.				
	Submitted By: Emily Mott (5616843456) Submitted On: 29-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3432	Other	Design Memorandum or Report	n/a		
(Document Reference: 7.2 security, pdf page 57) Vehicle gates may be best. this will likley prevent boat launching and still allow pedestrian and bicycle access. Specific gates for bicycle and pedestrian are not necessary as people can step over vehicle gates.					
Submitted By: jerry krenz (561 682 6746). Submitted On: 31-Mar-05					
1-0	Evaluation For Information Only Will finalize in 30% design.				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3433	Other	Design Memorandum or Report	n/a		
(Document Reference: 7.3 recreation, pdf page 57) Strike canoes or small boat access. Canoes or small boats will not be allowed for general public use within the STA, only in external canals. Hunters are currently allowed such during controlled hunts under specific conditions.					
Submitted By: jerry krenz (561 682 6746). Submitted On: 31-Mar-05					
1-0	Evaluation Concurred Text revisions incorporated into BODR				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
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3434	Other	Design Memorandum or Report	n/a		
(Document Reference: 7.3 Recreation pdf page 57) Strike Daytime Picnining. We ahd origianlly anticipated picnicking but the associattad trash will be a issue.					
Submitted By: jerry krenz (561 682 6746). Submitted On: 31-Mar-05					
1-0	Evaluation Concurred Text revisions incorporated into BODR Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

<u>Id</u>	<u>Discipline</u>	<u>DocType</u>	<u>Spec</u>	<u>Sheet</u>	<u>Detail</u>
3435	Other	Design Memorandum or Report	n/a		
(Document Reference: 7.3 recreation pdf page 57) Strike fishing While fishing is not prohibited we are not promoting fishing, therefor we should not list it as an activity.					
Submitted By: jerry krenz (561 682 6746). Submitted On: 31-Mar-05					
1-0	Evaluation Concurred Text revisions incorporated into BODR Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

<u>Id</u>	<u>Discipline</u>	<u>DocType</u>	<u>Spec</u>	<u>Sheet</u>	<u>Detail</u>
3436	Other	Design Memorandum or Report	n/a		
(Document Reference: 7.3 Recreation pdf page 57) in this bullet information / Strike education center replace with Kiosks to read information kiosks					
Submitted By: jerry krenz (561 682 6746). Submitted On: 31-Mar-05					
1-0	Evaluation Concurred Text revisions incorporated into BODR Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

<u>Id</u>	<u>Discipline</u>	<u>DocType</u>	<u>Spec</u>	<u>Sheet</u>	<u>Detail</u>
3438	Other	Design Memorandum or Report	n/a		
(Document Reference: 7.3 recreation pdf page 57) In the last paragraph. This area may be used for fishing. Vehicle access (parking)will be determined by the decsion on security. The original plans to have parking, information Kiosks and picnic area were contingent on the possibility that this area would be outside the treatment cell, seperated by a levee. Plans are changed since the fish farm is to be a part of the treatment cell. The information Kiosk will be placed at the bridge south of cell 4 at the entrance to STA 2 as part of the subsequent 12/08 project. Because of trash associattad with the picnic area we will not have a picnic area.					
Submitted By: jerry krenz (561 682 6746). Submitted On: 31-Mar-05					
1-0	Evaluation Concurred Text revisions incorporated into BODR Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

<u>Id</u>	<u>Discipline</u>	<u>DocType</u>	<u>Spec</u>	<u>Sheet</u>	<u>Detail</u>
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3552	Other	Other	n/a		
<p>[This item is flagged as a critical issue.]</p> <p>I am concerned that as currently designed, the operation of Cell 4 along with Cells 2 and 3 will create operational difficulties, given that the topo of Cell 4 is so low compared to other cells. Operating Cell 4 in the manner proposed over a long period may create operational problems by designing in inflexibilities from the beginning. While it is most important for District O&M to weigh in on whether the proposed operational scheme will be manageable, I feel that everyone must realize that they may asked repeatedly and routinely open and close the gates of Cells 2 and 3, while trying to simultaneously operate Cell 4. This seems to be restricting operational flexibility from the beginning. These concerns are less important if Cell 4 will eventually be decoupled from STA-2, but based on the comments made last week - this most likely not happen. Therefore, this restrictive operation will not be for a short period and may prove too onerous to maintain over an extended period. As Dr. Goforth mentioned during the past meeting, the less we have to actively operate a system or structure, the better off we are. I suggest this be applied to the operation of Cell 4. I understand that an additional structure could be constructed upstream of the Cells 2 and 3 outflow structure that would alleviate the need for the constant operation of the Cells 2 and 3 gates. I suggest that the short-term cost of this construction versus the long-term operational costs of operating the system as currently suggested be reviewed.</p> <p>Submitted By: Jana Newman (561.682.2820). Submitted On: 04-Apr-05</p>					
1-0	<p>Evaluation For Information Only</p> <p>Subsequent discussions with the District operations staff has resulted in a recommended change of the discharge structure for Cell 4 to a gated box culvert with telemetry and remote control. This will allow greater operational flexibility and control of the entire system. Cell 4 was designed within the operational ranges of the existing STA 2 system as defined in the Operations Plan.</p> <p>Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05</p>				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3565	Other	Other	n/a		
<p>All drawings in plan: Consultant fails to provide north arrow which allows for ready comprehension of drawing orientation.</p> <p>Submitted By: John Mills (425-452-8000). Submitted On: 04-Apr-05</p>					
1-0	<p>Evaluation Concurred</p> <p>For plan view drawings, North is to the top of the sheet. Design drawings will reflect North Arrows</p> <p>Submitted By: Emily Mott (5616843456) Submitted On: 29-Apr-05</p>				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3397	Structural	Other	n/a		
<p>On dwg. shts. C5 through C9, various water control structures are shown. These structures all need provisions for dewatering in order to do maintenance on the gates.</p> <p>Submitted By: Vincent Loehrlein (561-682-6174). Submitted On: 30-Mar-05</p>					
1-0	<p>Evaluation Concurred</p> <p>The culverts will be provided with features similar to the ones shown in the District's Standard Design Details to permit installation of needle beams for dewatering purposes. These details will be incorporated in the 30% design submission.</p> <p>Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05</p>				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3407	Structural	Other	n/a	Page 6-4	Section 6.3
<p>Although the general description of the intended conversion of the G-337A pumping structure is provided, there are no drawings or other schematics that would help illustrate this. Inclusion of a drawing or figure for this aspect would be beneficial. As an alternate, some labeled photographs could also be provided.</p> <p>Submitted By: Marinus Voskuilen (425-452-8000). Submitted On: 31-Mar-05</p>					
1-0	<p>Evaluation Concurred</p> <p>Agree. At least one drawing showing the conversion of the 337A pumping station to a gated structure will be shown</p>				

	in the 30% submission. Further mechanical, electrical and I&C drawings will follow in subsequent submittals.
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3408	Structural	Other	n/a	Page 6-5	Section 6.4, Paragraph 2
The culvert locations are shown on Figure C3 rather than Figure C2.					
Submitted By: Marinus Voskuilen (425-452-8000). Submitted On: 31-Mar-05					
1-0	Evaluation Concurred Agree. Edits to BODR will be made.				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3409	Structural	Other	n/a	Page 6-6	Section 6.5, Paragraph 1
Will some type of access walkway be provided for the weir to allow for management of weeds and trash?					
Submitted By: Marinus Voskuilen (425-452-8000). Submitted On: 31-Mar-05					
1-0	Evaluation For Information Only The weir is proposed to be eliminated in favor of a gated box culvert water control structure.				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3410	Structural	Other	n/a	Page 6-6	Section 6.5, Paragraph 2
The orientation of the weir structure is such that only two of the side weirs (on the north side) would pick up the sheet flow.					
Submitted By: Marinus Voskuilen (425-452-8000). Submitted On: 31-Mar-05					
1-0	Evaluation Non-concurred The longest length of weir was oriented across the collector canal since as described in the FESWMS/FLO2DH model results (see page 31). The highest concentration of flow occurs in this canal.				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3411	Structural	Other	n/a	Page 6-6	Section 6.5, Paragraph 3
The configuration of the weir as shown on Figure C9 causes me concern with how well the nappe will be aerated, even with the proposed air pipe embedment. Since Detail 1 does not dimension the top of the concrete portion of the weir, it is not possible to determine if the weir flow might not actually be catching on the corner of the concrete, further complicating the aeration of the nappe.					
Submitted By: Marinus Voskuilen (425-452-8000). Submitted On: 31-Mar-05					
1-0	Evaluation Concurred The trajectory of the underside of the nappe would have been estimated and the concrete/weir blade interface designed to avoid interference with proper aeration by the embedded pipes. However, since the weir is proposed to be eliminated from further consideration this issue is now moot.				

	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3412	Structural	Other	n/a	Page 6-6	Section 6.5, Paragraph 3

Care should also be given to the orientation of the air supply to avoid having the entrances become plugged. Screens on the air supply entrances are suggested.

Submitted By: [Marinus Voskuilen](#) (425-452-8000). Submitted On: 31-Mar-05

1-0	Evaluation Concurred The suggestion is noted, however the weir is proposed to be eliminated in favor of a gated box culvert water control structure. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3413	Structural	Other	n/a	Figure C5	

The grading plan around the culvert inlet appears to require some additional detail or clarification.

Submitted By: [Marinus Voskuilen](#) (425-452-8000). Submitted On: 31-Mar-05

1-0	Evaluation Concurred A more detailed grading of the culvert inlet shown in Figure C5 will be provided in the 30% design submittal Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3414	Structural	Other	n/a	Figure C5	

The length of headwall at the culvert outlet or the side slopes need to be defined.

Submitted By: [Marinus Voskuilen](#) (425-452-8000). Submitted On: 31-Mar-05

1-0	Evaluation Concurred The length of the culvert outlet headwall will be defined at the 30% submittal issue Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3415	Structural	Other	n/a	Figure C5	

The location of Section 2 is inconsistent with the actual section shown on C6. The location should not be in the 3:1 slope, but rather above or to the left of the top of the slope line.

Submitted By: [Marinus Voskuilen](#) (425-452-8000). Submitted On: 31-Mar-05

1-0	Evaluation Concurred Agree. The location of the section will be revised as noted in this comment. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3416	Structural	Other	n/a	Figure C6	Inlet Culvert Plan
Entrance conditions for the culvert inlet would be improved if the side walls flared out.					
Submitted By: Marinus Voskuilen (425-452-8000). Submitted On: 31-Mar-05					
1-0	Evaluation Concurred Agree. The suggested improvement will be incorporated in the 30% design issue. For a more gradual increase in velocities the walls will be flared at 11.5 degrees. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3417	Structural	Other	n/a	Figure C6	Section 1
The grading shown around the culvert inlet appears to need some additional development.					
Submitted By: Marinus Voskuilen (425-452-8000). Submitted On: 31-Mar-05					
1-0	Evaluation Concurred Agree. See response to comment 3413 Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3418	Structural	Other	n/a	Figure C6	Section 2
See a previous comment on Figure C5 regarding this section cut. If the location of the section cut stays the same on C5, then the top elevation would need to be adjusted, since a cut in the slope will not be at Elevation 19.0.					
Submitted By: Marinus Voskuilen (425-452-8000). Submitted On: 31-Mar-05					
1-0	Evaluation Concurred Agree. See response to comment 3415 Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3419	Structural	Other	n/a	Figure C6	Section 1
Will these gates be serviced in the wet or will there be a dewatering provision for this?					
Submitted By: Marinus Voskuilen (425-452-8000). Submitted On: 31-Mar-05					
1-0	Evaluation For Information Only See response to comment 3397 Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3420	Structural	Other	n/a	Figure C6	Section 3
Either the side (facing) slopes should be defined, or the length of the headwall should be shown on Figure C5.					
Submitted By: Marinus Voskuilen (425-452-8000). Submitted On: 31-Mar-05					
1-0	Evaluation Concurred The slopes of the excavated canals that the headwalls will be built on are shown in Sections 1 and 3 of Sheet C6.				

	However, the length of the headwall will be clearly defined in the 30% submittal.
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3421	Structural	Other	n/a	Figure C7	
As discussed in the text (Section 6.5), the design of the outlet should be reviewed for erosion potential.					
Submitted By: Marinus Voskuilen (425-452-8000). Submitted On: 31-Mar-05					
1-0	Evaluation Concurred The need to riprap the slopes around the culvert exit and the extent of the protection will be determined at the 30% submittal stage Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3422	Structural	Other	n/a	Figure C9	Section 1
I am concerned with how well this configuration will aerate the nappe. The blade is only 2.5 inches above the concrete and the width of the concrete at the top of the wall is not defined.					
Submitted By: Marinus Voskuilen (425-452-8000). Submitted On: 31-Mar-05					
1-0	Evaluation For Information Only See response to comment 3411 Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3423	Structural	Other	n/a	Figure C9	Section 1
Please review the potential for a seepage or piping path under the footing and/or provide some keying or cut off into the foundation material.					
Submitted By: Marinus Voskuilen (425-452-8000). Submitted On: 31-Mar-05					
1-0	Evaluation Concurred Seepage collars or other means of preventing piping will be examined during the 30% design phase once the results of the additional borings planned for this phase are available. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3424	Structural	Other	n/a	Figure C9	Section 1
It may be beneficial to lengthen the end of the footing to provide for some energy dissipation from the weir, or to review the erosion potential in this area.					
Submitted By: Marinus Voskuilen (425-452-8000). Submitted On: 31-Mar-05					
1-0	Evaluation Concurred This issue would have been examined during the 30% design if the weir was still under consideration. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				

Current Comment Status: **Comment Open**

Id	Discipline	DocType	Spec	Sheet	Detail
3425	Structural	Other	n/a	Figure C9	Section 4
The section seems to imply two double cells placed side by side. In final detailing please review that a seepage or piping path does not exist between the two structures.					
Submitted By: Marinus Voskuilen (425-452-8000). Submitted On: 31-Mar-05					
1-0	Evaluation Concurred Agree. This issue will be considered in the 30% design phase.				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3426	Structural	Other	n/a	Figure C9	Section 3
The weir shown does not have a symmetrical shape. Without the trapezoidal shape on the right side, the flow across this will be slightly different than the other weirs.					
Submitted By: Marinus Voskuilen (425-452-8000). Submitted On: 31-Mar-05					
1-0	Evaluation For Information Only The weir is proposed to be eliminated in favor of a gated box culvert water control structure.				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3427	Structural	Other	n/a	Figure C7	
There do not appear to be any trashracks within the system. Is this intentional?					
Submitted By: Marinus Voskuilen (425-452-8000). Submitted On: 31-Mar-05					
1-0	Evaluation For Information Only Yes. Since all Cell 4 flows originate in S6 pumping station there is no significant issue of floating debris as evidenced by the lack of trash cleaning devices in the STA 2 structures.				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3428	Structural	Other	n/a	Figure C7	
In the event of trash accumulation in the area upstream of the box culverts, is there an operating plan to deal with this?					
Submitted By: Marinus Voskuilen (425-452-8000). Submitted On: 31-Mar-05					
1-0	Evaluation For Information Only This issue will be examined in the 30% design by consultation wit the District's O&M personnel				
	Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05				
	<i>Backcheck not conducted</i>				
	Current Comment Status: Comment Open				

Id	Discipline	DocType	Spec	Sheet	Detail
3429	Structural	Other	n/a	Figure C9	
It appears that the minimum water surface elevation in Cell 4 will be set by the weirs at Elevation 9.65 (or 9.45 if the weir blade is removed).					

Is there a need or a provision for achieving a lower elevation?

Submitted By: [Marinus Voskuilen](#) (425-452-8000). Submitted On: 31-Mar-05

1-0	Evaluation For Information Only See response to comment 3395 Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3430	Structural	Other	n/a	Figure C7	Rating Table

The rating table provided appears to be correct for a fully vented discharge, however, the report indicates that at higher flows the weir is submerged. The table values will not apply to a submerged weir.

Submitted By: [Marinus Voskuilen](#) (425-452-8000). Submitted On: 31-Mar-05

1-0	Evaluation For Information Only The weir is proposed to be eliminated in favor of a gated box culvert water control structure. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3431	Structural	Other	n/a	Figure C5	

Not much information is provided regarding the precast buildings. Although they are not very large, a simple schematic would be helpful.

Submitted By: [Marinus Voskuilen](#) (425-452-8000). Submitted On: 31-Mar-05

1-0	Evaluation Concurred Agree. A plan of the precast buildings will be shown in the 30% design. Submitted By: Emily Mott (5616843456) Submitted On: 28-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Id	Discipline	DocType	Spec	Sheet	Detail
3569	Structural - Hydraulic/Structures	Design Memorandum or Report	n/a	3-3	

(Document Reference: Section 3.3) From Cal Neidrauer: General Design Requirements, Section 3.3 Functional & Operational Requirements, page 3-3, last para: ☐ In addition to the specific functional and operational requirements noted above, the overarching requirement of the STA 2/Cell 4 Expansion Project is that the hydraulic design of Cell 4 must not adversely affect the ability of Cells 1 through 3 to perform as designed and that the expanded STA will increase the capability of the STA to satisfy EFA water quality goals. ☐ As noted above, the lack of a controllable outflow structure from Cell 4 is likely to reduce the ability to meet this overarching requirement of STA 2/Cell 4.

Submitted By: [Becky Hachenburg](#) (561-682-2654). Submitted On: 05-Apr-05

1-0	Evaluation For Information Only See response to #3568 Submitted By: Emily Mott (5616843456) Submitted On: 29-Apr-05
	<i>Backcheck not conducted</i>
	Current Comment Status: Comment Open

Report Complete

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RESPONSES TO COMMENT ID: 4009

Comment ID	Response
1	No response required.
2	At the time of the development of the work order for the BODR, the District directed BC to use the design criteria that was used in the original STA 2 design. The District, however only included the PMS scenario in the scope of work. The SPS will be evaluated during the 30% design. Upon review of the existing STA 2 design, it was noted that the PMS scenario (including wind/wave analyses) does not always result in higher levee elevations than the SPS scenario (including wind/wave analyses). The levee heights will be revised as needed based on the analyses conducted in 30% design.
3	Determination of recurrence intervals was not included in the scope of work. The low flow scenario is meant as a representation of normal daily operations of the cell. The design flow condition only occurs under maximum pumping conditions of the S-6 & G-328 supply pump stations feeding STA 2. The reader should not confuse these design conditions with traditional design storm events for flood studies.
4	Due to time constraints associated with the project schedule, it was necessary to develop a model in CHAN for evaluating the PMS scenario. The original intent was to do this modeling within the FESWMS model, but due to instabilities associated with running the PMS in FESWMS and the limited timeframe, the CHAN model was used. The HEC-RAS model was not used due to time constraints associated with developing the unsteady model and uncertainty as to possible bugs based on historic experience with the UNET module. CHAN was selected because it has a rich selection of hydraulic structure options that can be used to handle the types of facilities in Cells 1, 2 and 4.
5	Clarification will be made in the BODR.
6	Calibration was not performed for the modeled flow scenarios. Calibration was not necessary because Cell 4 is being designed to operate at specific conditions for the evaluated flow scenarios. Downstream boundary conditions were used as defined in the operating plan for the current STA 2 system. Channel and STA roughnesses were chosen to be consistent with previous investigations and design values recommended by District staff. Edits to the BODR will be made to address calibration.
7	An schematic of the model will be included in Appendix E.
8	The word "effective" will be added ahead of "length of 200 feet" to explain the difference with Figure C8 length.
9	Section 5 will be revised to state boundary conditions including earlier studies.
10	The downstream boundary condition value of 9.54 ft NGVD, determined in the 1996 Brown and Caldwell GDR, corresponds to the lowest normal operating range of stages at the G-335 pumping station forebay for the design flow (3,370 cfs). The same boundary condition value was used for low flows, rationalizing that for low flows, the resulting flatter slope downstream of the boundary condition would result in stages in G-335 forebay, higher than 8.9 ft, therefore within the pumps normal working range.

11	The junction (J2) of the cell 4 body (Cell4 Ext reach) and the collector canal (Collect Canal Ex reach) was purposely placed at the downstream end of the collector canal. The junction length was modeled as the entire length of the collector canal to simulate the head loss due to change in direction of the flow entering the collector canal from the cell. A junction is the only feature in HECRAS that simulates the head loss due to the change in momentum of the flow turning 90-degrees. Introducing the collector canal as a reach required artificially assigning a minimum flow to the upstream end of the canal. Locating the junction at any other place along the collector canal reach would have defeated the purpose of the model.
12	The manning's end coefficient was selected conservatively higher than the values listed in Appendix F. It is normal practice when designing canals to have sufficient conveyance to carry the highest operating flows to use conservative values of roughness coefficients.
13	Mannings "n" value of 0.044 was not used in the cell. HECRAS offers the option of inputting varying Mannings "n" coefficient with vertical variations of water depth. Sutron's report relationship between water depth and mannings "n" agreed to in the January 28, 2005 "Design and Operational Criteria" workshop were used to calculate the head losses through Cell-4. The text will be revised to clarify this point.
14	No. The model outputs Mannings "n" of zero when varying values are input into the model as it was the case for the cell body.
15	The BODR text will be revised to reflect the peer review that was conducted.
16	Edits will be made to the BODR text.
17	Edits to the BODR text will be made to reference the seepage calculations in the Geotechnical Engineering Report. The seepage rates used in the DMSTA analyses are based on the seepage rates as discussed in this report. A unit seepage rate of 3.5 cfs/feet of head/mile of levee was used to calculate the DMSTA model input values. The calculated values in the geotechnical report range from 2.5 to 3.5 cfs/feet of head/mile of levee. The control elevations used for the DMSTA model inputs are based on average operating conditions. The geotechnical control elevations are based on the design flow condition. Sensitivity analyses were conducted in DMSTA by adjusting the seepage rates and control elevations by +/-25%. These adjustments had no significant effect (less than 0.4 percent change) on the predicted outflow TP concentrations.
18	Edits will be made to the BODR text to incorporate "head difference" to the table.
19	The outflow seepage TP concentration is an assumed value. This value was also used in the Basin Specific Feasibility Studies, which were used in support of developing the Long Term Plan for Achieving Water Quality Goals. Sensitivity analyses were conducted by adjusting the outflow seepage concentration by +/-25 percent. There was no significant effect on the predicted outflow concentrations (less than 0.08% difference).
20	The Strategy Paper referenced in the Draft BODR states that flow weighted mean outflow concentrations from existing STA 2 averaged 16 ppb for the last three water years (as of July 2004). The DMSTA simulations with the addition of Cell 4 predict flow weighted outflow TP concentrations over the 31 year simulation period of 13-15 ppb. Cell 4 is being implemented in accordance with the Long Term Plan for Achieving Water Quality Goals which addresses the water quality goals of the District.

21	No response required.
22	Definition of PSTA was defined on page 3 of Appendix F, but the definition has been reinserted on page 19 for clarification in the final report.
23	The caption on Figure 4.5 has been updated in the final report
24	The first and fourth bullets were removed in the final report
25	Units were inserted into the caption for Figure 5.5 in the final report
26	The figure numbers and text have been updated in the final report
27	Figure 5.18 has been replaced with the appropriate figure of velocity distribution in the final report
28	All the instabilities experienced in the steady state simulations were related to the presence of inflow culverts and outflow weir structure in the model. At first, it was decided to include these structures in the model to compare the head losses through the structures to those of the HECRAS model used to establish the water elevations and discharge boundary conditions for each of the FESWMS simulations. Several measures were investigated to eliminate instabilities including mesh refinements upstream of the structures and reduction of relaxation factor on the solution with no success. Due to the limited time schedule to complete the modeling, and because the simulation of flow through the inflow and outflow structures could be achieved more adequately with HECRAS, it was decided to limit the FESWMS model domain to the area between the downstream of the inflow culverts and the upstream side of the outflow weir structure. The final model setup without inflow and outflow structures is stable under all flow scenarios considered in the study.
29	Due to the limited amount of topographic data available to generate the DTM for the model, we feel that there is too much uncertainty in the DTM at this point to recommend an extensive and costly alternative that consists regrading the ground surface of the lower portion of the cell. Uniform flow across the area can be achieved with a flat cross-sectional topography of the cell. Thus, we highly recommend to evaluate these kind of alternatives until further topographic data is available.
30	Wind and wave analysis discussion in section 6 was expanded
31	Reference was a misnomer. Corrected
32	Detail regarding the method for wave height calculation has been added. The method uses a conservation of energy approach to account for wave energy dissipation as the wave propagates over the highly vegetated bottom. The equation upon which Fig II-2-23 in the CEM is based was used in the wave height calculation.
33	Table 6.1 was in error. The table has been corrected.
34	See response to item #4 above.
35	Edits will be made to the BODR for clarification.
36	A schematic will be included in the BODR.
37	Edits will be made to the BODR.

RESPONSES TO COMMENT ID: 4010

MEMORANDUM

126242.4027/2

May 2, 2005



TO: Maria Clemente, P.E. – South Florida Water Management District

FROM: James Siegfried, P.E., Project Manager – Brown and Caldwell
Emily Mott McBryan, P.E., Assistant Project Manager – Brown and Caldwell

SUBJECT: STA 2/Cell 4 Expansion Project
Draft Basis of Design Report
Responses to Dr. Robert Kadlec's comments regarding the DMSTA modeling presented in the Draft Basis of Design Report

Dr. Robert Kadlec, P.E. presented review comments on the DMSTA modeling portion of the subject report in a memorandum dated April 18, 2005 to Ms. Maria Clemente, P.E. of the South Florida Water Management District (District). Dr. Kadlec's comments are presented below in italics followed by Brown and Caldwell's (BC) responses.

This memorandum is submitted as a partial review of the subject document. It deals only with the DMSTA modeling component of the subject report. I find this component of the report to be inappropriate. It is based on partial and speculative information, and reports findings outside of the specified scientific bounds of the DMSTA model. These sections of the BODR should be removed, because of the above scientific shortcomings, because these model results are not required for the design, and because the Regional Feasibility Study is engaged in conducting a more appropriate, updated performance forecast study.

More specifically, the following issues are identified:

- 1. The flow basis in the Long Term Plan (LTP) is now known to be incorrect. The STA2 Cell 4 forecasts based upon that faulty information cannot be relied upon.*

The BODR DMSTA modeling did not use the same flow data set that was used in the Long-Term Plan (LTP), but used a data set with increased flows. As explained in the Strategy Paper "For both projections the inflow data set corresponding to the period 2007-2015 was adjusted to increase the flows and reduce TP inflow concentrations to reflect observed values over the last three water years." In addition, as described in the BODR, BC increased the flows by 25% to reflect the uncertainty of future flows.

2. *The calibrations used in these calculations are either obsolete or disproven. Any forecasts done in 2005 should include the 2003 and 2004 performance of the STAs, which in the case of STA2, represents nearly the entire period of record past stabilization. The old ENR Cell 4 calibration has been proven overly optimistic, and should no longer be used.*

The DMSTA modeling used the best available information as included in the April 2002 version of DMSTA. BC is not aware of any updated calibration data sets as referenced above.

3. *The DMSTA simulations in the July 2004 Strategy Paper, relied upon in the BODR and replicated there, contain computer error warning messages to the effect that the computer program is being used outside its valid range. These messages are ignored in the Strategy Paper. They are mentioned in the BODR, but the results are used anyway, and not mentioned in the Executive Summary.*

Some DMSTA simulations using the SAV_C4 calibration data set had one or more cells outside the calibration range. These were warnings, and do not necessarily mean the results should be discarded; in fact many simulations for the LTP had identical warnings. However, both the LTP and the BODR used a range of calibration data sets to bracket the potential performance in recognition of the remaining scientific uncertainty associated with modeling treatment performance of stormwater treatment areas.

4. *The simulations ignore the central optimization requirement of the LTP, namely that each STA cell be compartmentalized, for purposes of vegetation management and hydraulic improvement.*

The BODR is very clear that STA 2 Cell 4 is the first of more than 9,000 acres in Compartment B that will become treatment area. At the present time, Cell 4 will be operated in parallel with the other three cells of STA 2, which is consistent with the compartmentalization concepts in the LTP. In addition, BC was asked to avoid spending money now for features that may be unnecessary in the near future, such as an interior levee that may not be needed in the full build out of Compartment B.

5. *It is presumed that STA2 Cell 4 is intended to increase the treatment area solely for the currently presumed flows to STA2 that are now treated in the existing three cells. This is contrary to the concept of optimizing the performance of the entire set of STAs. Specifically, STA1W is known to be badly overloaded, by as much as a factor of two. It is alarming that these calculations purport to show how the performance of STA2 might be improved in isolation, while STA1W is in dire straits and in the process of breaking its permit.*

The optimal balancing of flows and phosphorus loads among the STAs was clearly beyond the scope of Cell 4 BODR. However, as clearly stated in the BODR, this will be evaluated in the Regional Feasibility Study being conducted by the District, and recommendations will be incorporated into the final configuration of Compartment B. While Cell 4 design is not intended as the mechanism to solve all the re-distribution problems, the DMSTA modeling did include increased flows of 25% above the observed flows to STA 2; this could represent the movement of additional water from STA-1W to help alleviate the current overload situation.

In short, these calculations are incorrectly founded, improperly used, and in conflict with the LTP. They address polishing of STA2 flows while other STAs are performing poorly.

The Regional Feasibility Study is in the process of rectifying each and every one of these flaws, and will be redoing such DMSTA simulations in the very near future. At this point in time, the publication of the BODR DMSTA results serves no useful purpose, and in fact obfuscates the real issues of STA performance.

The immediate purpose of Cell 4 is to improve water quality in the STA 2 system with the current flows and loads entering this system. An additional objective of Cell 4 is to retain the equivalent hydraulic capacity that exists today at STA 2 (Cells 1 through 3) in order to take an existing cell offline as needed for maintenance or enhancements.

It is BC's understanding that the Compartment B lands will be evaluated in the Regional Feasibility Study to balance the flows and loads across the STAs. The balancing of flows and loads to STA 2 are outside BC's scope of work. The DMSTA simulations presented in the BODR, while not used directly in the design as Dr. Kadlec has stated, are informative as to the potential performance that the STA 2 system may achieve with this initial expansion. While scientific uncertainty exists, the information obtained from this exercise is valuable to the District in assessing this potential performance.